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THE LOGIC OF SCARCITY: IDLE SPECTRUM AS A FIRST AMENDMENT VIOLATION

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ABSTRACT

The Supreme Court has distinguished the regulation of radio spectrum from the regulation of printing presses, and applied more lenient scrutiny to the regulation of spectrum, based on its conclusion that the spectrum is unusually scarce. The Court has never confronted an allegation that government actions resulted in unused or underused frequencies, but there is good reason to believe that such government-created idle frequencies exist. Government limits on the number of printing presses almost assuredly would be subject to heightened scrutiny and would not survive such scrutiny. This Article addresses the question whether the scarcity rationale—or any other reasoning—supports distinguishing spectrum from print such that government actions constricting the supply of spectrum would pass muster.

I argue that the scarcity rationale does not support, and instead undercuts, government actions that limit the use of the spectrum. Government decisions that exacerbate the problems that gave rise to government regulation in the first place subvert the entire justification

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for lenient review. And no other rationale would distinguish spectrum from print in a way that would support government constraints on the former but not the latter. Commentators have not attended to this question of the constitutional status of idle spectrum, perhaps assuming that NBC v. United States *and* Red Lion Broadcasting Co. v. FCC *effectively held that all regulation of spectrum is subject to lenient scrutiny. But the cases did not purport to extend so broadly, and there is good reason to conclude that their lenient review would not apply to government actions reducing the availability of spectrum. The appropriate review, I contend, is the intermediate scrutiny ordinarily applied to content-neutral speech regulation. In order to satisfy such scrutiny, the government must put forward an important or substantial government interest. I suggest that in most cases the only interest that would justify a refusal to allocate spectrum is nontrivial interference. I thus conclude that, even if one accepts the current state of the doctrine, the government cannot exclude noninterfering uses from the spectrum.*

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INTRODUCTION

In 1927, Congress claimed control of the radio spectrum.[1] In 1967, the Federal Communications Commission (FCC or the Commission) promulgated regulations requiring that stations airing personal attacks or political editorials give assailed parties airtime for a response.[2] And in 2000, Congress gutted a plan that would have allowed low power radio broadcasters to utilize currently unused fre-

1. Radio Act of 1927, ch. 169, 44 Stat. 1162, 1162. The government did not claim ownership of the spectrum, but it both explicitly precluded private ownership and arrogated unto itself broad authority to control the spectrum. *See* 47 U.S.C. § 301 (1994):

> It is the purpose of this Act, among other things, to maintain the control of the United States over all the channels of radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license.

See also infra note 223; *In re* NextWave Personal Communications, Inc., 200 F.3d 43, 50 (2d Cir. 1999) ("Although not owned by the federal government, the radio spectrum is subject to strict governmental regulation.").

The radio spectrum is the range of frequencies suitable for the propagation of radio waves. *See* HARRY NEWTON, NEWTON'S TELECOM DICTIONARY 362, 697–98 (16th ed. 2000) (defining terms relevant to the discussion of radio frequencies and spectrum). It would be a bit ungainly to refer constantly to "the range of frequencies suitable for radio waves" or "the available range of radio frequencies," so in most places I simply refer to "the spectrum." This shorthand should not obscure the fact, however, that spectrum has no independent existence, but instead is just the available range of frequencies. *See infra* notes 104–06 and accompanying text.

2. Amendment of Part 73 of the Rules to Provide Procedures In the Event of a Personal Attack or Where a Station Editorializes as to Political Candidates, 8 F.C.C.2d 721, ¶ 7 (1967).

quencies.[3] The Supreme Court applied fairly deferential review in explicitly upholding the personal attack and political editorial rules in *Red Lion Broadcasting Co. v. FCC*[4] and implicitly upholding the government's control of the spectrum in *NBC v. United States*,[5] based on the same rationale: the spectrum was scarce and was subject to interference, so the regulation at issue was permissible.[6] One might assume that this justification for lenient review would apply to the 2000 decision on low power radio as well. But the 2000 decision is different, because scarcity does not justify keeping users off the airwaves. Indeed, the addition of new users to the spectrum would tend to mitigate the scarcity problem. The justifications for lenient review of government action thus do not apply to this decision. Accordingly, assuming the validity of *Red Lion*, *NBC*, and the scarcity rationale, government decisions that limit the availability of spectrum are subject to more rigorous review than was applied in those cases—and that review will often prove fatal.

Commentators have not addressed this point, because most have argued for a reconceptualization of spectrum regulation and the scarcity justification on which it has been based. Some argue that neither spectrum scarcity nor any other rationale can justify government control over spectrum, and thus push for private ownership of the spectrum.[7] Others agree that the spectrum is not scarce in ways that distinguish it from newspapers but put forward other justifications for regulation of spectrum—ones that often support regulation of news-

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3. In January 2000, the FCC promulgated a rulemaking establishing a low power radio service. Creation of Low Power Radio Service, 15 F.C.C.R. 2205 (2000). That December, however, Congress passed (and the president signed) legislation substantially limiting the program. Appropriations Act for the District of Columbia, Pub. L. No. 106-553, § 632(a), 114 Stat. 2762 (2000); *see also infra* notes 52–54 and accompanying text (discussing the legislation).

4. 395 U.S. 367, 375 (1969).

5. 319 U.S. 190, 216–17 (1943) (upholding the chain broadcasting rules, which restricted the contractual arrangements that radio networks could have with broadcasters).

6. *See infra* Part III.A.

7. *See, e.g.*, LUCAS A. POWE, JR., AMERICAN BROADCASTING AND THE FIRST AMENDMENT 197–209 (1987) (debunking the six versions of the scarcity argument put forth by different Supreme Court Justices); R.H. Coase, *The Federal Communications Commission*, 2 J.L. & ECON. 1, 14 (1959) (arguing that spectrum is no more scarce than other commodities); Matthew L. Spitzer, *The Constitutionality of Licensing Broadcasters*, 64 N.Y.U. L. REV. 990, 991 (1989) (asserting that neither the scarcity argument nor the government property rationale justifies government ownership of the broadcast spectrum); Thomas W. Hazlett, *Physical Scarcity, Rent Seeking, and the First Amendment*, 97 COLUM. L. REV. 905, 908 (1997) (arguing that "the physical scarcity doctrine is internally inconsistent, and cannot form any cogent rationale for public policy").

papers and other means of communication.[8] It is hard to find any economist or law professor who supports the differing treatment of spectrum and print based on the scarcity rationale. The few commentators who defend the markedly weaker judicial scrutiny of broadcasters' regulation[9] than of newspapers' regulation have justified that distinction on grounds other than scarcity.[10] But the current regulatory scheme does treat spectrum regulation differently from print regulation, and the basis for that difference is the scarcity rationale. The arguments for a new understanding of mass media regulation are quite valuable, but it is also important to analyze the implications of

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8. *See, e.g.*, C. Edwin Baker, Turner Broadcasting*: Content-Based Regulation of Persons and Presses*, 1994 SUP. CT. REV. 57, 127 (arguing that the values of the First Amendment demand different treatment of individuals and all media entities due to media entities' ability to influence public opinion); Jerome Barron, *Access to the Press-A New First Amendment Right*, 80 HARV. L. REV. 1641, 1643 (1967) (arguing that regulation of newspapers by the government may be necessary to secure the First Amendment's guarantee of freedom of expression when "comparatively few private hands are in a position to determine not only the content of information, but its very availability, when the soap box yields to radio and the political pamphlet to the monopoly newspaper"); CASS R. SUNSTEIN, DEMOCRACY AND THE PROBLEM OF FREE SPEECH 49–50 (1993) (putting forward a justification of regulation based on "the need to promote democratic self-government," and arguing that this justification applies to newspapers as well as broadcasters); OWEN M. FISS, LIBERALISM DIVIDED: FREEDOM OF SPEECH AND THE MANY USES OF STATE POWER 150, 154–55 (1996) [hereinafter Fiss, LIBERALISM DIVIDED] (arguing that laws aimed at increasing robust public debate should be permissible as to broadcasters and newspapers); Owen M. Fiss, *Why the State?*, 100 HARV. L. REV. 781, 787–90 (1987) [hereinafter Fiss, *Why the State?*] (arguing that the market position of newspapers and broadcasters is similar, and that as a result of their position both merit regulation by the state).

9. Much of the focus for commentators has been on broadcasters in particular, rather than spectrum more generally. This makes a good deal of sense when the focus is on the treatment of companies that have broadcast licenses versus those that print newspapers. For purposes of my focus on unused and underused spectrum, however, this division of the spectrum seems inapposite. As I discuss *infra*, the scarcity rationale as applied to unused spectrum extends both to broadcast and nonbroadcast uses of the spectrum, so I address spectrum regulation, rather than broadcast more specifically. *See infra* Part VI.A. Indeed, as I discuss in the Article, it is hard to understand how one could know to characterize unused spectrum as intrinsically "broadcast" or "nonbroadcast." *See id.*

10. Prominent among the few in this category are Lee Bollinger and Charles Logan. *See* Lee C. Bollinger, Jr., *Freedom of the Press and Public Access: Toward a Theory of Partial Regulation of the Mass Media*, 75 MICH. L. REV. 1, 2–3, 26–37 (1976) (arguing for differing regulatory regimes for newspaper and broadcast as a way of balancing two different constitutional values); Charles W. Logan, Jr., *Getting Beyond Scarcity: A New Paradigm for Assessing the Constitutionality of Broadcast Regulation*, 85 CAL. L. REV. 1687, 1688–92 (1997) (arguing that the scarcity rationale does not justify government regulation of the spectrum, but that such regulation can be justified either as a quid pro quo for the government's granting of spectrum licenses or based on an affirmative vision of the First Amendment). Professor Bollinger, though, argues not so much that broadcast should be regulated more heavily than print, but rather that it makes sense to have one mass medium that is regulated and one that is not, and that broadcasting might as well be in the former category and print in the latter. Bollinger, *supra*, at 26–37.

the current regulatory approach to spectrum. Given that this is the controlling regime, fleshing out its ramifications has obvious significance. It also allows us to compare the current approach to possible alternatives.

My argument in this Article is that government control of the spectrum entails a concomitant obligation to make that spectrum available, such that the government's refusal to allow anyone to use a given frequency must satisfy intermediate scrutiny in order to be constitutional. In the main, the only government interest that will satisfy such scrutiny is nontrivial interference with another's signal.[11] This means that the government will be able to keep spectrum unutilizable or underutilized only to the extent that interference justifies such choices. The government violates the First Amendment when it keeps more spectrum unused than is justified by concerns about interference.

This analysis presumes the validity of the existing regulatory regime, and thus does not speak to those whose starting point is the rejection of the current scheme. It is worth noting, however, that this is one of the few aspects of spectrum regulation on which those who want to free spectrum from government control and those who support a greater government role might agree. Requiring that the government satisfy a rigorous test in order to limit the uses of the airwaves represents a restriction on government power. Although those who want the spectrum to be beyond government control would of course sweep more broadly, their analysis and mine will reach similar conclusions on governmental limits on new spectrum users. Most supporters of greater government control, in turn, have put forward as a central goal (and, therefore, justification of government action) the opening up of communications facilities to more speakers.[12] Their focus has been on forcing private companies to provide avenues for other voices to use their spectrum, but their reasoning applies as well to preventing the government from limiting options for those other voices.[13] Thus, even though the two camps' reasoning places them on opposite sides of most spectrum debates, here they would appear to be on the same side.

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11. There are other possible government interests. For instance, the government may fear that once it allocates spectrum for a given use it will not be able to get the spectrum back for another use, especially in light of the potential entrenchment of incumbents. I discuss the insufficiency of these other government interests in Part V.A.

12. *See infra* notes 155–60 and accompanying text.

13. *See infra* notes 161–65 and accompanying text.

The Article begins in Part I by discussing situations in which there is a strong argument that government actions have resulted in unused or underused frequencies. Part II turns to the First Amendment, framing the issue by considering the constitutional objections to a regime that licenses printing presses. Part III addresses the basis upon which the Supreme Court has distinguished spectrum from print—the scarcity rationale. The problem for the government is that the scarcity rationale does not support, and instead undercuts, government actions that diminish the number of users of the spectrum. And no other rationale distinguishes spectrum from printing presses in a way that justifies the government limiting access to the former but not the latter. One obvious objection to this argument is that it is inconsistent with *NBC* and *Red Lion*, the two main cases articulating and relying on the scarcity rationale. Part IV takes up those cases, finding that nothing in them suggests that scarcity applies across the board, and that there are good reasons to conclude that scarcity does not apply when government limits the supply of frequencies. Part IV then argues that, in the absence of scarcity as a justification for more lenient scrutiny, the scrutiny applicable to government decisions that keep potential users off the spectrum is the intermediate scrutiny articulated in *Turner Broadcasting System, Inc. v. FCC*.[14] Part V applies that scrutiny to the various interests that the government might allege, concluding that, in most cases, only nontrivial interference will constitute an important or substantial government interest. Part VI considers how broadly the principle against government wasting of the spectrum applies. I contend that it is not limited to broadcast spectrum, and that it applies not only to unused but also to underused spectrum. Finally, Part VII addresses those situations in which adding users to the spectrum might be a less restrictive alternative to other forms of regulation. The import of my analysis is that, if a potential licensee challenges government actions that keep frequencies unusable or underused, in most cases the only legally sufficient basis for the government's action will be the need to prevent nontrivial interference; and the government's argument that interference is a problem will be subject to intermediate scrutiny.

14. 512 U.S. 622 (1994). This case is known as *Turner I*, to distinguish it from the second Supreme Court opinion (after the Supreme Court in *Turner I* remanded the case to the lower court), which is reported at 520 U.S. 180 (1997) and is known as *Turner II*.

I. WHEN MIGHT GOVERNMENT ACTIONS CREATE UNUSED OR UNDERUSED SPECTRUM?

A. The Government's Licensing Regime

The FCC is the main governmental entity that regulates the use of spectrum.[15] Its parceling of the spectrum usually entails three basic decisions. First, the Commission determines the quantity and location of frequencies to allocate for a given service or services—the number of megahertz of spectrum (e.g., a total of 10 megahertz) that will be designated for broadcast television, cellular telephony, satellite radio, etc., and the position of that slice on the spectrum (e.g., the frequencies between 100 and 110 megahertz).[16] Second, it determines how the frequencies allocated for a given service will be divided up—how big a piece of spectrum each license will cover (e.g., 100 licenses covering 100 kilohertz each, which totals 10 megahertz); how much area each license is authorized to cover (e.g., a portion of the United States) and what the limits are on the power levels of the transmitters; and whether and how it will create buffers between users or between services to avoid interference.[17] Third, the Commission assigns the licenses to particular entities. Until fairly recently, the FCC chose licensees by evaluating the applicants for a given license in a comparative hearing.[18] Under current law, however, the Commission is required to assign most licenses via auction.[19]

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15. The National Telecommunications and Information Administration (NTIA), located within the Commerce Department, manages the portions of the spectrum that are reserved for government use, and it shares authority with the FCC to determine which portions are so reserved. 47 U.S.C. § 902 (2000). When spectrum allocated to the federal government is unused or underused, the NTIA thus may bear some responsibility for that wasting. The arguments in this Article would apply to such wasting. They are not limited to any one portion of the radio spectrum, and instead apply to the portions allocated to governmental and private actors. *See infra* Part VI.A. In light of the fact that the FCC makes most of the decisions regarding spectrum, and the cumbersomeness of referring to "the FCC and for some purposes the NTIA," however, I will refer to "the FCC" as a convenient shorthand for government actors that control the use of the spectrum.

16. STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 62–63 (2001).

17. *Id.*

18. *Id.* Congress gave the FCC the authority to distribute licenses via lottery in 1982, and it chose this method for distributing some licenses (e.g., licenses for cellular telephony in markets other than the thirty largest), but continued to use comparative hearings for other licenses (e.g., broadcast radio and television licenses). *See* 47 U.S.C. § 309(i)(1) (2000) (providing authority to choose licenses via lottery); Amendment of the Commission's Rules to Allow the Selection From Among Competing Applicant for New AM, FM, and Television Stations by Random Se-

With respect to the first two categories of decisions, the FCC can choose to exert significantly less control than this discussion might suggest. Rather than specify a single permissible service on a particular band of spectrum, the Commission might give potential licensees more flexibility to choose to provide one (or more) services from among a variety of authorized services. Indeed, the FCC could simply state that licensees can offer any service(s) they deem desirable. Similarly, rather than specify the permissible level of power and the size of a buffer zone, the FCC could just prohibit uses that interfere with existing uses, and leave it to the new users to avoid interference (whether by modifying their own activities or reimbursing an existing user for the cost of changing its use to prevent the interference). The FCC might even decide not to restrict interference, and to leave the resolution of interference disputes to common law courts hearing cases in trespass or nuisance.[20]

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lection (Lottery), 5 F.C.C.R. 4002, 4002 (1990) (choosing comparative hearings rather than lotteries for these licenses); Amendment of the Commission's Rules To Allow the Selection from Among Mutually Exclusive Competing Cellular Applications Using Random Selection or Lotteries Instead of Comparative Hearings, 98 F.C.C.2d 175, 175 (1984) (implementing lotteries for cellular telephony licenses). In 1993, Congress gave the Commission the authority to auction licenses used in common carrier and private radio services, but not broadcasting licenses. Omnibus Budget Reconciliation Act of 1993, Pub. L. 103-66, § 6001, 107 Stat. 312, 379–86. Finally, in 1997, Congress broadened the auction authority and made auctions mandatory, requiring that nearly all initial licenses (including broadcast licenses) be auctioned. 47 U.S.C. § 309(i)–(j) (2000). *See* BENJAMIN ET AL., *supra* note 16, at 144–146 (discussing the move from hearings to lotteries to auctions).

19. 47 U.S.C. § 309(i)–(j). There are a few exceptions to the auction mandate. The FCC is not permitted to auction licenses or construction permits for public safety radio services, for noncommercial educational or public broadcast stations, or for digital television service given to existing broadcast licensees to replace their analog television service licenses. § 309(j)(2); *see also* Implementation of Sections 309(j) and 337, 15 F.C.C.R. 22,709, ¶¶ 88–91 (2000) (outlining the FCC's first-come, first-served licensing, with hearings as an option, for licenses exempt from the auction requirement). The FCC is also prohibited from auctioning orbital locations or spectrum for international or global satellite communications services. 47 U.S.C. § 765f (2000); *see also* Amendment of Commission's Space Station Licensing Rules and Policies, 17 F.C.C.R. 3847, ¶¶ 5–10 (2002) (discussing the FCC's comparative method of assigning space station licenses).

20. Some commentators have observed exactly this. *See, e.g.*, PETER HUBER, LAW AND DISORDER IN CYBERSPACE 74–76 (1997) (proposing that common law courts, rather than the FCC, adjudicate interference disputes); Thomas W. Hazlett, *The Rationality of Broadcast Regulation*, 33 J.L. & ECON. 133, 149 (1990) (contending that common law courts were doing a creditable job of mediating interference disputes before the federal government arrogated that authority unto itself). As Hazlett and others have noted, an early case in the Illinois courts involved the adjudication of a claim that one station was interfering with another and damaging the latter's rights, much like a common law property dispute. Tribune Co. v. Oak Leaves Broad. Station, 68 CONG. REC. 216 (1926) (Cir. Ct., Cook County, Ill. Nov. 17, 1926); *see also* Tom W. Bell, *The Common Law of Cyberspace*, 97 MICH. L. REV. 1746, 1764–67 (1999) (arguing that

Such a scheme is not a product of my imagination. A number of commentators have proposed that the FCC sell spectrum to entities and allow them to use the spectrum in any way they see fit, subject only to limitations on interference (whether enforced by the FCC or by common law courts).[21] And in some cases the FCC has in fact moved toward greater flexibility. It has issued a notice of proposed rulemaking and accompanying policy statement that promise a willingness to allow licensees to develop additional uses for their spectrum.[22] More concretely, the FCC has, for example, allowed radio stations to use part of their spectrum for nonbroadcast services, such as private paging, data transmission, and dispatch services.[23] In addition, for the 746–764 and 776–794 megahertz bands the Commission has promulgated service rules that allow a wide range of wireless services, leaving it up to particular licensees to choose what wireless service to provide.[24] Perhaps more dramatically, in a few small, high-frequency bands, the FCC created a regime that not only allows for flexible uses, but also does not require a license.[25] The regulations limit the power

Oak Leaves applied principles of trademark law, and more generally asserting that trademark law, rather than common law, should govern spectrum).

21. *See, e.g.*, HUBER, *supra* note 20, at 72–74 (advocating "[p]rivatizing the [a]irwaves"); Thomas Hazlett, *Assigning Property Rights to Radio Spectrum Users: Why Did FCC License Auctions Take 67 Years?*, 41 J.L. & ECON. 529, 569 (1998) (arguing for a market-based spectrum allocation system); Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 FED. COMM. L.J. 87, 102 (1997) ("So long as a spectrum user's emissions comply with objective numerical standards, it should ordinarily be free to offer any services by using any technologies it wishes. The Commission should also consider expanding spectrum users' flexibility to negotiate among themselves interference limitations."); Comments of Gregory L. Rosston et al., *In re* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets at 5, WT Docket No. 00-230, *at* http://www.manhattan-institute.org/hazlett/cthazlett010207.pdf (FCC Feb. 7, 2001) (on file with the *Duke Law Journal*) ("The Commission should eliminate all requirements that are not related to interference or anti-competitive concentration.").

22. Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, 15 F.C.C.R. 24,178, ¶ 1 (2000); Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, 15 F.C.C.R. 24,203, ¶ 2 (2000).

23. BENJAMIN ET AL., *supra* note 16, at 72.

24. Service Rules for the 746–765 and 776–794 MHz Bands, 15 F.C.C.R. 476, ¶ 2 (2000); *see also* Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, 15 F.C.C.R. 24,178, ¶ 2 (2000) ("Licensees/users should have flexibility in determining the services to be provided and the technology used for operation consistent with the other policies and rules governing the service.").

25. *See* 47 C.F.R. § 15.407(a)(1)–(3) (2001) (listing technical requirements for an "Unlicensed National Information Infrastructure").

that any entity can use and their emissions outside the frequency bands, but otherwise they contain relatively few constraints.[26]

This flexibility applies to only a relatively small percentage of the spectrum, however.[27] The FCC often permits only one service on a given slice of spectrum, and it often creates or mandates buffers between licensees.[28] These strictures have particular significance for purposes of this Article. Governmental restraints on the use of spectrum give rise to the possibility that a provider of a new service will be denied use of the spectrum, even though its service will not interfere with existing licensees. Limits on potential services raise the specter of underutilized frequencies. And buffers between users create dead space, thereby rendering those portions of spectrum legally unusable.

B. Unused and Underused Spectrum

The right to transmit over a particular frequency would have little value if the transmission were subject to significant interference. For most services, a signal that cannot be reliably received is not terribly useful. Thus, a central concern in spectrum policy is avoiding undue interference. When considering interference, though, there is an immediate problem: every transmitter creates some interference, so interference is not an on/off switch but is instead a continuum. Every time a person uses a cordless telephone, or even turns on a light, there is a transmission of energy through the air that thereby creates a tiny amount of interference for nearby users of nearby frequencies. That interference often will be quite slight—in some situations, so slight that users of existing services will not experience any loss of signal quality—but there almost assuredly will be some interaction between the radio waves propagated by the new source and

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26. Amendment of the Commission's Rules to Provide for Operation of Unlicensed NII Devices in the 5 GHz Frequency Range, 12 F.C.C.R. 1576, ¶¶ 32–55 (1997); *see also* Stuart Buck, *Replacing Spectrum Auctions with a Spectrum Commons*, 2002 STAN. TECH. L. REV. 2, ¶¶ 84–85 (Aug. 2, 2002), *at* http://stlr.stanford.edu/STLR/Articles/02_STLR_2/index.htm (on file with the *Duke Law Journal*) (summarizing the relevant federal regulation); Gregory L. Rosston & Jeffrey S. Steinberg, *Using Market-Based Spectrum Policy to Promote the Public Interest*, 50 COMM. L.J. 87, 96 (1997) (outlining justifications for the existing flexible regulation regime).

27. *See* Thomas W. Hazlett, *The Wireless Craze, the Unlimited Bandwidth Myth, the Spectrum Auction Faux Pas, and the Punchline to Ronald Coase's "Big Joke": An Essay on Airwave Allocation Policy*, 14 HARV. J.L. & TECH. 335, 339 (2001) ("[T]he services liberalized constitute just a small slice of available airspace. In the prime frequencies under 3 GHz, particularly important for mobile uses, only about six percent of frequencies are zoned for flexible use. Above 3 GHz, the proportion is much less." (footnotes omitted)).

28. *See infra* notes 35–37 and accompanying text.

those of an existing source. It would be much simpler if a transmission at X watts caused absolutely no interference, and a transmission at X+1 watts caused considerable interference, but that is not the world that we inhabit.

The radio waves emitted by some services, though, cause so little interference to other services that their addition to the airwaves barely has any effect on existing services or can be remediated easily (e.g., by adjusting the rabbit ears on televisions that receive broadcast signals).[29] The FCC has added many such services to the spectrum over the years, knowing that their interference would not be zero, but would be so small as to be *de minimis*.[30] Indeed, one of the FCC's goals when it considers adding new services to the spectrum is to ensure that interference from those new services is kept at trivial levels or can be avoided through simple remediation.[31]

Some potential providers of new services, however, have not been allowed on the spectrum despite strong arguments that their proposed use would create trivial amounts of interference and/or could easily be avoided. Some of these situations have arisen when the government prevents anyone from using a slice of spectrum—regardless of potential licensees' interest in using it. The best example of ongoing prohibitions of this sort are mandated buffers between li-

29. *See, e.g.*, Service Rules For 746–764 and 776–794 MHz Bands, 15 F.C.C.R. 5299, ¶¶ 4–24 (2000) (allowing for new services that, according to the FCC, should create no greater interference than existing services); *see also infra* notes 33–51 and accompanying text.

30. *See, e.g.*, Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, 12 F.C.C.R. 14,588, ¶¶ 76–78 (1997) (adopting allotments for digital television designed to create only *de minimis* interference); Amendment of Parts 2 and 25 of Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency, 16 F.C.C.R. 4096, ¶¶ 225–28 (2000) (permitting nongeostationary-satellite-orbit-fixed-satellite service and terrestrial-fixed-multichannel video distribution and data service providers to share certain segments of the Ku-band).

31. *See, e.g.*, Review of the Technical Assignment Criteria for the AM Broadcast Service, 6 F.C.C.R. 6273, ¶ 129 (1991) (adopting an allotment plan to "allow small variations in inter-allotment spacings to permit sufficient flexibility to derive an allotment plan that would satisfy the needs and interests of licensees that desire to migrate and to ensure that the expanded band would be as interference-free as possible"); Amendment of Part 81 of the Rules Concerning the Duplication on Service by Public Coast Stations, 35 F.C.C.2d 642, ¶ 13 (1972) ("Our objective, in assigning working frequencies to VHF public coast stations, as reflected and reaffirmed in this proceeding, is to avoid to the maximum extent possible, destructive electrical interference caused through simultaneous co-channel operation by stations."); Amendment of Part 25 of the Commission's Rules and Regulations to Reduce Alien Carrier Interference Between Fixed-Satellites, 8 F.C.C.R. 1316, ¶ 5 (1993) ("The goal of this rulemaking proceeding is to prevent harmful interference between satellites and to minimize the impact if unintentional harmful interference does occur.").

censees. In light of the danger of interference, a major concern of regulators is to space uses sufficiently far apart that they will not create significant interference for each other. The FCC thus frequently requires that a given licensee operate on a frequency that is significantly higher or lower than the frequency on which other licensees operate.[32] But what if some service could operate in that buffer zone while creating only *de minimis* interference problems? In such circumstances, the government's failure to allow that service would needlessly keep the spectrum idle.

A number of potential providers have put forward strong arguments that this is exactly the situation their service presents. The most famous (some would say infamous) recent example is low power FM radio.[33] As the name suggests, these broadcasters would operate at much lower wattage levels than traditional (full power) broadcasters do. The idea was that in many markets additional radio stations could broadcast without interfering with existing stations, so long as these new stations transmitted their signals at sufficiently low power. According to the FCC, "licensing very low powered stations will fill in the gaps in the spectrum that would otherwise go unused."[34]

The FCC's policy since the mid-1960s has been that, when it assigns a given frequency to an FM broadcaster (e.g., 99.5 megahertz, which corresponds to 99.5 on the FM dial), it creates a buffer around that frequency by refraining from assigning to anyone in that area the three adjacent frequencies (in the example above, 98.9, 99.1, 99.3, 99.7, 99.9, and 100.1 would be off-limits to other users).[35] In 1999, the FCC proposed that it license low power radio stations to operate on

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32. *See, e.g.*, Amendment of Part 90 to Increase the Number of Frequencies in the 72–76 MHz Band for Low Power Mobile Use, 7 F.C.C.R. 8528, ¶ 4 (1992) (allowing for new uses while providing for buffers between services); *see also infra* notes 35–37 and accompanying text.

33. Low power radio is famous because of the opportunity it provided for a profusion of new voices on the FM dial. As is discussed below, legislation enacted in December, 2000, dramatically reduced the number of stations that would be able to offer this service, provoking the outrage of many low power proponents. *See, e.g.*, Eric Brazil, *Congress Blocks Plans for Low Power FM Radio*, S.F. CHRON., Dec. 19, 2000, at A3 (quoting an advocate of low power radio who characterized the December 2000 legislation as "an outrageous precedent").

34. Creation of Low Power Radio Service, 15 F.C.C.R. 19,208, ¶ 71 (2000).

35. The FCC grandfathered stations that were assigned before these buffers were created, allowing them to continue operating despite their failure to satisfy these spacing requirements (and thereby demonstrating that the buffers were not necessary). Grandfathered Short-Spaced FM Stations, 12 F.C.C.R. 11,840, ¶ 3 (1997); Revision of FM Broadcast Rules, 40 F.C.C. 868, ¶¶ 12–13 (1964); *see also infra* note 46.

As the numbers in the example indicate, the spectrum allocated to broadcasting is allotted in channels of 200 kilohertz each. 47 C.F.R. §73.201 (2000).

some of those unused channels.[36] The FCC's technical staff recommended, and the FCC formally proposed, that low power stations be placed on both the second adjacent FM channel (99.1 or 99.9 in the example above) and the third adjacent channel (98.9 and 100.1), and that these stations range in power from 10 watts to 1000 watts.[37] The technical staff concluded that these proposals satisfied concerns about interference, but the FCC, in response to a negative reaction from incumbent broadcasters, scaled back its proposal.[38] As adopted in its 2000 rulemaking, the proposal for low power FM reduced the maximum power of the proposed service from 1000 to 100 watts, declined to authorize low power FM service on the second adjacent FM channel, and created a buffer zone around the low power FM stations.[39] In addition, the FCC created a procedure to monitor interference and halt the broadcasting of any low power FM station that interfered with an existing station.[40]

The FCC's original proposal, and the engineering studies on which it relied, did not find that low power FM would produce absolutely no interference.[41] As I noted above,[42] that standard is impossible for even a toaster to meet.[43] What the studies found, instead, was that for over 99 percent of receivers, low power FM would not create any

36. Creation of a Low Power Radio Service, 14 F.C.C.R. 2471, ¶ 1 (1999).

37. Press Release, Federal Communications Commission, FCC Chairman Responds to House Vote to Cut the Number of Community Radio Stations by 80%, 2000 WL 377442 (Apr. 13, 2000) [hereinafter Press Release]. Full power FM broadcasters operate at power levels from 3,000 to 100,000 watts. *Id.*

38. Yochai Benkler, Property, Commons, and the First Amendment: Towards a Core Common Infrastructure 42, *at* http://www.law.nyu.edu/benklery/WhitePaper.pdf (Mar. 2001) (White Paper for the First Amendment Program, Brennan Center for Justice at New York University School of Law) (on file with the *Duke Law Journal*).

39. Creation of Low Power Radio Service, 15 F.C.C.R. 2205, ¶ 4 (2000); *see also* THOMAS W. HAZLETT & BRUNO E. VIANI, LEGISLATORS V. REGULATORS: THE CASE OF LOW POWER FM RADIO, 17 tbl.2, *at* www.aei.brookings.org/publications/working/working_02_01.pdf (AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 02-1, Feb. 2002) (on file with the *Duke Law Journal*) (charting the differences between the FCC orders).

40. Creation of Low Power Radio Service, 15 F.C.C.R. 2205, ¶ 67 (2000).

41. Others argue that low power radio would have produced no interference at all. *See* LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD 223 (2001) (stating that "there was very good technical evidence that these low power radio stations . . . would create no technical interference with existing radio stations").

42. *See supra* first paragraph of Part I.B.

43. Much less a toaster with pictures. *See* Bernard D. Nossiter, *Licenses to Coin Money: The FCC's Big Giveaway Show*, THE NATION, Oct. 26, 1985, at 402 (quoting former FCC Chair Mark Fowler as saying that a television is merely "a toaster with pictures").

additional interference.[44] Some radios with particularly crude receivers (usually handheld radios and clock radios), though, can easily be subject to interference. They do a very bad job of selecting the desired channel (from the group of channels surrounding the desired channel), and, consequently, all sorts of other transmissions can affect them. Some of these receivers (amounting to less than 1% of radios), the studies found, might experience a small amount of interference. Even this interference was easily mitigated, however: users could bring their reception back to its original level simply by moving their radios a foot or so.[45] The FCC's original proposal also noted that there are already over four hundred full power stations operating under FCC authority without third-adjacent-channel protection—indeed, many of these stations did not have second-adjacent-channel protection[46]—and yet the FCC had received no complaints about interference; and "[t]hese full power-stations . . . have consistently met the Commission's criteria for distortion-free signals."[47]

The FCC, in other words, made a strong case that the interference created by the low power FM plan it approved was so small as to

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44. *See F.C.C. Radio Spectrum Mgmt.: Hearing on H.R. 3439 Before the House Subcomm. on Telecomm., Trade and Consumer Prot.*, 106th Cong. 36 (2000) [hereinafter *Hearing*] (testimony of Theodore S. Rappaport, Professor, Virginia Polytechnic Institute and State University).

45. *Id.*

46. These stations were authorized prior to the Commission creating the third adjacent channel protection requirements, and subsequently were grandfathered. Thus, even though they operate with only one or two channels between them and the next station on the dial, the FCC has allowed them to continue to broadcast. *See supra* note 35; *see also* Fact Sheet, Federal Communications Commission, Low Power FM Radio Service: Allegations and Facts, *at* http://www.fcc.gov/Bureaus/Mass_Media/Factsheets/lpfmfact032900.html (Mar. 29, 2000) (on file with the *Duke Law Journal*) [hereinafter Fact Sheet] ("Over 400 full power FM stations authorized prior to November 1964 do not meet the 3rd adjacent channel protection requirements. In 1997 the FCC grandfathered these 'short spaced' FM stations.").

47. Fact Sheet, *supra* note 46; Press Release, *supra* note 37; *see also Hearing*, *supra* note 44, at 142 (testimony of Christopher Maxwell, Secretary/Treasurer, Virginia Center for the Public Press):

> Grandfathered "Short Spaced" stations . . . are close on the dial and are very near each other. Do they interfere significantly with each? A drive through test has shown that they do not. Compare their signal wattage with a 100-watt LPFM station. Would you expect any interference in that case? Under these circumstances, it's obvious you would not.

It also bears noting that "pirate" radio stations often broadcast in these radio buffer zones (e.g., on a second or third adjacent channel). According to one commentator, "Such broadcasts did not disrupt existing communications; indeed, they long went undetected." Hazlett, *supra* note 27, at 389.

be *de minimis*.[48] In fact, a common criticism of the FCC's proposal was that it was too restrictive (e.g., by leaving unnecessarily large buffers, in the form of the second adjacent channels), thereby idling frequencies that could be used without creating interference.[49] One scholar calculated that, in contrast to the one thousand or so stations that the FCC's plan would yield (and in starker contrast to the few hundred that Congress's subsequent legislation will allow), over ninety-seven thousand low power stations could be added without creating additional interference.[50] The FCC itself stated that its proposal "g[a]ve even greater protection to existing radio service than a strict reading of the engineering record would have warranted."[51]

Others begged to differ, however. The National Association of Broadcasters and National Public Radio mounted a massive lobbying campaign against low power FM, arguing, inter alia, that interference was a bigger problem than the FCC believed.[52] They were unable to persuade the FCC, but they were successful in lobbying Congress. In December 2000, President Clinton signed legislation reducing by over 50 percent the number of low power FM stations that would be able to operate—in other words, increasing the amount of spectrum that would remain as unused buffer spectrum.[53] The campaign against low

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48. *See* Creation of Low Power Radio Service, 15 F.C.C.R. 19,208, ¶ 18 (2000) (noting that "the level of new interference from LPFM stations will be very small"); Fact Sheet, *supra* note 46:

> The LPFM stations will be of such low power, and the separation distances prescribed by the FCC for 100 watt stations are so conservative that if any interference occurs it will be no greater than the minimal interference accepted by the FCC and the listening public on current radio receivers.

49. *See, e.g.*, Hazlett, *supra* note 27, at 389 (criticizing the FCC's low power FM proposal, and arguing that "[b]y extending an extremely limited, highly regulated opportunity to a small handful of community radio stations, vast opportunities for low power FM broadcasting will continue to be left unexploited"); Benkler, *supra* note 38, at 42–43 ("As a result of the FCC's conservatism, community groups in large urban centers with many incumbent broadcasters would find it difficult, if not impossible, to operate.").

50. HAZLETT & VIANI, *supra* note 39, at 26 ("Even when we cap the density of LPFM stations . . . the band maintains an insertion capacity of 97,701 new 100-watt stations."); Hazlett *supra* note 27, at 396 tbl.7 (estimating that a further 97,701 LPFM stations could be added without causing additional interference to existing stations).

51. Press Release, Federal Communications Commission, FCC Lottery Today Determines Order for Accepting Applications for Low Power FM Radio Station Licenses, 2000 WL 306359 (Mar. 27, 2000).

52. *See, e.g.,* Sarah Wildman, *Mixed Signal: NPR sells out*, NEW REPUBLIC, Feb. 12, 2001, at 14, 14–16 (describing the resistance of National Public Radio to the FCC's low power FM radio initiatives).

53. *See* Appropriations Act for the District of Columbia, Pub. L. No. 106-553, § 632(a), 114 Stat. 2762, 2762A-111 (2000) (imposing restrictions on the FCC by modifying the rules on low

power FM led Bill Kennard, then Chair of the FCC, to comment sardonically that "[t]he only real interference to Low Power FM radio is from high priced Washington lobbyists."[54]

The upshot is that there is a quite credible argument that the government is needlessly keeping frequencies idle on the current FM dial.[55] That is, there is a reasonable case for the proposition that the government is preventing uses of frequencies that would not cause anything more than trivial interference. In other situations, the problem is not that the government is unwilling to allocate a slice of spectrum for any use, but rather that it allocates a slice only for services (often a single service) that do not occupy all of its capacity, leaving room for other services if only the FCC would allow them. This highlights that I am not talking solely about unallocated frequencies. The allocation scheme for spectrum authorizes the government to approve as many or as few uses as it wants for any given slice of spectrum, and to allocate whatever size slice it deems appropriate.[56] The combination of the control over uses and over spectrum sizes has resulted in situations where a user has more frequencies than it needs, but has no ability to offer (or allow another entity to offer) an additional service on its frequencies.

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power FM radio stations, including a prohibition against reducing minimum distance separations and against extending eligibility to applicants not listed, and also retroactively enforcing the rule modifications); *see also* Stephen Labaton, *Congress Severely Curtails Plan for Low Power Radio Stations*, N.Y. TIMES, Dec. 19, 2000, at A1 ("The provision . . . makes it all but impossible for licenses to be issued in cities of even modest size . . . . [A]t most a handful of stations in the least populated parts of the country may be started, although even that is now uncertain."); Frank Ahrens, *Budget Bill Curbs Low Power Radio*, WASH. POST, Dec. 20, 2000, at E3 (reporting that the legislation "reduced the number of potential stations by as much as 75 percent" and that "almost no low power stations can be licensed in cities, where the FM dial is crowded"); Lyssa Graham, *New Legislation Hurts Low Power FM Radio Initiative*, MIAMI HERALD, Dec. 22, 2000, at 3A (stating that the legislation was "a major blow to FCC Chairman William Kennard's campaign to bring diversity back to the radio waves").

54. Press Release, Federal Communications Commission, Statement of FCC Chairman William E. Kennard on Low Power FM Radio, 2000 WL 332618 (Mar. 29, 2000).

55. One district court opined that it "'is inclined to agree that the FCC's non-commercial low power broadcasting ban smacks of favoritism towards wealthier interest groups who do not wish to share the airwaves with non-commercial stations.'" United States v. Szoka, 260 F.3d 516, 521 (6th Cir. 2001) (quoting the district court's unpublished opinion). Indeed, the court then drew precisely the conclusion from this fact that this Article advocates: according to the court, keeping low power stations off the spectrum would be "contrary to the FCC's obligation to distribute the airwaves in a manner that furthers the 'public interest' and, thus, would be inconsistent with the First Amendment." *Id.*

56. See *supra* notes 15–19 and accompanying text on the decisions that the FCC makes with respect to spectrum.

In the best known example, the FCC has set aside substantial amounts of spectrum for ultra high frequency (UHF) television, with 6 megahertz allocated to each television broadcaster for its NTSC television signal (the signal in use today for almost all off-air television reception in the United States),[57] but on most of this spectrum the FCC has not allowed any other uses.[58] The problem is that some of these UHF channels have never been used to broadcast UHF. In many areas, there has been available UHF spectrum that no one has been able to use for any purpose, because UHF television is not sufficiently attractive to entice any broadcasters.[59] That spectrum would be of great value to other users (such as cellular telephony providers), but other services have not been permitted on the spectrum. So the spectrum has been unused, even though there were many who would love to use it, because of governmental restrictions on its utilization.[60]

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57. NTSC stands for the National Television Systems Committee, which was a group formed in 1940 that created a common standard for broadcasting. That standard has been predominant in the United States—indeed, the exclusive means of broadcasting in the United States until the advent of digital television—since 1940. BENJAMIN, ET AL., *supra* note 16, at 332.

58. *See* Gerald R. Faulhaber & David Farber, *Spectrum Management: Property Rights, Markets, and the Commons*, *in* Comments of Gerald R. Faulhaber & David Farber, *In re* Issues Related to the Commission's Spectrum Policies at 4, ET Docket No. 02-135, *at* http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513282647 (FCC July 18, 2002) (on file with the *Duke Law Journal*) (used with permission) (noting that UHF license holders "are unable to use the spectrum for any other purpose"). The FCC has allowed some land mobile usage on UHF channels 14–20, but not on the many channels above 20. *See* Land Mobile Use of TV Channels 14 Through 20, 23 F.C.C.2d 325, 341 (1970) (allowing land mobile usage in ten of the top twenty-five urban areas). The FCC has allowed one other use of this spectrum—low power television—but relatively few low power television stations exist. *See, e.g.* EVAN R. KWEREL & JOHN R. WILLIAMS, CHANGING CHANNELS: VOLUNTARY REALLOCATION OF UHF TELEVISION SPECTRUM 13, *at* http://www.fcc.gov/Bureaus/OPP/working_papers/oppwp27.pdf (FCC, Working Paper No. 27, 1992) (on file with the *Duke Law Journal*) (discussing the situation in Los Angeles).

59. *See* Fred H. Cate, *The First Amendment and the National Information Infrastructure*, 30 WAKE FOREST L. REV. 1, 37–38 (1995) (citing UHF frequencies as an example of a market where scarcity does not exist because broadcasters prefer VHF frequencies); Mark S. Fowler & Daniel L. Brenner, *A Marketplace Approach to Broadcast Regulation*, 60 TEX. L. REV. 207, 224–25 (1982) (discussing low market demand for spectrum outside large cities, especially "in the UHF band, where some channels have remained unclaimed for decades"); Jeffrey Silva*, TV Spectrum Could Convert to Wireless*, RADIO COMM. REP., July 8, 1996, at 1 (describing an FCC auction plan to convert undesired UHF spectrum into spectrum used for next-generation wireless services). *See generally* Public Notice, Television Channel Utilization, 1997 WL 557928 (FCC Sep. 9, 1997) (listing commercial channel utilization around the country).

60. *See* Faulhaber & Farber, *supra* note 58, at 4 (noting that the UHF band "is extremely underutilized"). The FCC is in the process of diminishing this underutilization, by reallocating some of the existing channels for other purposes and using some existing allotments for digital television purposes, but thus far the process is far from complete, and has been beset by delays.

In other contexts, there is an applicant for a given allotment of spectrum, and thus the relevant range of frequencies is not totally vacant, but its use for the designated purpose will occupy only a small part of any given assignment. The limitation on additional uses means that, even if a licensee can identify a supplemental use of its spectrum that will not interfere with other uses or with its existing uses, the government will not permit the additional service to be offered. The result is that potentially valuable spectrum lies underused. The 2500–2690 MHz band has been a notable example of this phenomenon. In 1963, the FCC allocated these frequencies to instructional television fixed service (ITFS), and decided that the licensees would be accredited schools seeking to augment their educational mission.[61] There were two problems, however: in some areas there were no applicants for those frequencies, and those who did apply for this spectrum were given much more spectrum than they wanted to use for their ITFS transmissions.[62] Both problems arose from the fact that the FCC had allocated this bandwidth for ITFS, and nothing else. The FCC responded to this problem by allowing ITFS licensees to lease "excess capacity" to multichannel multipoint distribution service (MMDS) operators.[63] Even with both uses, however, the demand has not been

See, e.g., Hazlett, *supra* note 27, at 542 (noting that "[d]espite the existence of abundant unoccupied bandwidth after the digital TV license awards, transitional concerns (moving UHF-TV stations) continue to delay the implementation of new services").

61. Amendment of Parts 2 and 4 of the Commission Rules and Regulations to Establish a New Class of Educational Television Service, 39 F.C.C. 846, ¶¶ 15–29 (1963).

62. *See* Amendment of Parts 2, 21, 74 and 94 of the Commission's Rules and Regulations in Regard to Frequency Allocation to the Instructional Television Fixed Service and the Multipoint Distribution Service, 94 F.C.C.2d 1203, ¶ 25 (1983) (noting the lack of interest in some of the frequencies devoted to ITFS, and the surplus bandwidth for those who did have the licenses).

63. FCC Broadcast Radio Services, 47 C.F.R. § 74.931(c) (2001); Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, 10 F.C.C.R. 9589, ¶ 1 (1995); Amendment of Parts 2, 21, 74 and 94 of the Commission's Rules and Regulations in Regard to Frequency Allocation to the Instructional Television Fixed Service and the Multipoint Distribution Service, 94 F.C.C.2d 1203, ¶ 85, at 1236 (1983).

To obtain the license (and therefore lease to MMDS operators), an ITFS provider must offer at least twenty hours of ITFS educational programming per week. 47 C.F.R. § 74.931(c)–(d). This creates an incentive for an educational institution to offer educational programming simply for the sake of being able to lease the remaining spectrum to MMDS operators, and some educational institutions appear to have done just that. *See* Mark Wigfield, *Schools' Spectrum Rights Promise a Bonanza, But Can They Cash In?*, WALL. ST. J., Sept. 6, 2000, at B1 (describing the financial incentives of schools to offer educational programming in order to lease the remaining spectrum to private corporations). Jason Flaherty notes a particularly absurd result involving the license issued to Southwestern Academy in Beaver Creek, Arizona:

sufficient to fully occupy the entire range of frequencies allotted for these purposes.[64] Other services (notably, third generation wireless telephony) would love to use that spectrum, but the FCC has not allowed other uses and the spectrum remains underutilized.[65]

The central difference between unused and underused spectrum is whether the spectrum is unallocated, or allocated but limited in its uses (as is the case with most spectrum).[66] In the former case, the spectrum is not usable by anyone, and in the latter it is usable only for certain services, which services might not occupy all of the available bandwidth. The relationship between these two can be fairly fluid, as it may be that spectrum in a given band is both unused and underused, and that a new service can respond both to the nonallocation and the underallocation. UHF spectrum illustrates this point. In addition to the underutilization described above,[67] there is also government-mandated nonuse of spectrum in the form of buffers between UHF stations (known as "taboos"). The FCC has noted how large the taboos are: "These taboos limit the maximum number of UHF allotments in any community to 9 out of the possible 55 UHF

> Southwestern Academy was awarded four of the six megahertz channels for a protected service area emanating from Casa Grande, Arizona. Southwestern Academy only has a total of twenty-four students—one student for each megahertz of ITFS spectrum they possess. Ironically, despite the lavish excesses of their ITFS spectrum, Southwestern Academy is unable to use their service because the path between their campus in Beaver Creek and their tower in Casa Grande is obstructed by steep canyon walls.

Jason Roy Flaherty, Comment, *Reallocating the Instructional Television Fixed Service Electromagnetic Spectrum at 2.5 GHz*, 96 NW. U. L. REV. 1177, 1197 (2002).

64. *See, e.g.*, Amendment of Parts 1, 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions, 14 F.C.C.R. 12,764, ¶ 56 (1999) (stating that "most [ITFS channels] have lain fallow"); Flaherty, *supra* note 63, at 1195–1200 (arguing that the ITFS spectrum is wasted and poorly allocated); Scott Woolley, *The Sky Is Calling*, FORBES, May 13, 2002, at 151 (noting that "a 190-megahertz-wide swath of bandwidth starting at the 2.5-gigahertz frequency lies virtually unused").

65. *See* Amendment of Part 2 of the Commission's Rules To Allocate Spectrum Below 3 GHz for Mobile and Fixed Services, 16 F.C.C.R. 17,222, ¶ 27 (2001) (adding mobile use to the 2500–2690 MHz band but refusing to reallocate or modify existing licenses).

66. The way that a licensee's rights to its spectrum were structured—specifically, whether or not a current licensee had the ability to block new, noninterfering uses of the spectrum that it had been assigned—may be of considerable importance to the service providers involved; and if a licensee's rights were seen as extending to all potential uses of the spectrum it had been assigned, then this would be an additional difference between unused and underused spectrum. But this difference is not inherent in the distinction between unallocated and allocated spectrum. *See infra* note 259.

67. *See supra* notes 57–60 and accompanying text.

channels."[68] As with radio, the FCC has required separations between stations, and, again, there are good arguments that these separations allow for other services that would operate at lower power and would cause little or no interference with existing uses.[69] But, repeating the pattern with low power radio, low power television broadcasters have been allowed on the spectrum in smaller numbers than interference concerns would seem to dictate.[70]

Incumbent broadcasters have contended that new services would interfere with their broadcasts, so that buffers could not be reduced without doing substantial harm to their signals.[71] These arguments were largely successful in preventing broadcasters' competitors from gaining access to "their" spectrum, but a funny thing happened when the incumbent broadcasters wanted additional assignments of 6

68. Advanced Television Systems and Their Impact on the Existing Television Broadcast Service, 2 F.C.C.R. 5125, ¶ 59, at 5132 (1987).

69. *See* Thomas W. Hazlett & Matthew L. Spitzer, *Digital Television and the Quid Pro Quo*, 2 BUS. & POL. 115, 124 (2000) (noting that since the UHF taboos were established in 1952, it is "unnecessary to use vacant slots for interference control because of the possibility of using newer technologies . . . or of allowing non-interfering wireless services other than TV to utilize unoccupied frequencies").

70. *See* An Inquiry into the Future Role of Low Power Television Broadcasting and Television Translators in the National Telecommunications System, 47 Fed. Reg. 21,468, ¶¶ 3, 29 (May 18, 1982) (stating that "interference to communications services" was one of six "decision criteria," and permitting low power television between channels 2 and 69); IRA BRODSKY, WIRELESS: THE REVOLUTION IN PERSONAL COMMUNICATIONS 17 (1995) ("[T]he spectrum shortage is a manufactured problem. For example, the UHF-TV band comprises 336 MHz of bandwidth. Few cities have more than a half dozen active UHF-TV stations (each occupying just 6 MHz). The rest of the UHF-TV band has been sitting around for years collecting electromagnetic dust."); Paul Baran, Is the UHF Frequency Shortage a Self-Made Problem?, Speech Delivered at the Marconi Centennial Symposium, *at* http://www.interesting-people.org/archives/interesting-people/199507/msg00023.html (June 23, 1995) (on file with the *Duke Law Journal*) ("Tune a spectrum analyzer across a band of UHF frequencies and you encounter a few strong signals. Most of the band at any instant is primarily silence, or a background of weaker signals. The spectrum analyzer connected to an antenna reveals that much of the radio band is empty much of the time!").

71. *See, e.g.*, An Inquiry Into the Future Role of Low Power Television Broadcasting and Television Translators in the National Telecommunications System, 47 Fed. Reg. 21,468, ¶ 43 (May 18, 1982) (indicating that the Association of Maximum Service Telecasters, the National Translator Service, the Corporation for Public Broadcasting, and other groups opposed the licensing of low power television on UHF channels only); An Inquiry into the Future Role of Low Power Television Broadcasting and Television Translators in the National Telecommunications System, 82 F.C.C.2d 47, ¶ 61 (1980) (noting that cable television parties made many assertions of interference from new translators but provided little evidence in support of their claims); Amendment of Parts 2, 89, 91, and 93, 23 F.C.C.2d 325, ¶¶ 32–38, 54–64 (1970) (stating that broadcasters were "strongly opposed" to sharing UHF television channels due to concerns about interference).

megahertz[72] for digital television: the FCC found that it was able to make room for a doubling of every licensee's assignment by allotting to each existing licensee unused spectrum originally allocated for television channels 2–51.[73] Admittedly, the design of the digital television standard meant that adding digital television on the spectrum created much less interference for the incumbents than adding new full power analog television signals would have created. But some of the potential new uses to which the incumbent broadcasters successfully objected (such as low power television) would also have created dramatically less interference. There was so much unused bandwidth within the existing broadcast allocation that the FCC could add a massive new use of the spectrum without causing additional interference for the existing users. Digital television, in other words, is an existence proof that a new service can be added without creating interference.

The examples above involve proposed services that are low power versions of the existing service. These low power services would greatly increase the number of speakers on a given medium, and likely add a good bit of diversity to the medium. Just as troubling as government decisions limiting low power services are government decisions that deny access to services that would provide something quite different from what is currently available. Promising new technologies offer exciting possibilities for the use of the airwaves, and, once again, there are strong arguments that they would create trivial interference for existing services, but government allocation decisions leave much of their—and the spectrum's—capacity untapped.

The best recent example is ultra-wideband (UWB) transmission. UWB is a form of "spread spectrum" technology, which uses extremely low power transmissions that hop or spread among a wide range of possible frequencies.[74] Messages can be transmitted despite

72. That is, in addition to the six they already had. *See* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, 7 F.C.C.R. 5376, 5376 ¶1 (1992) (providing for the granting of six additional megahertz to existing broadcasters).

73. *See* Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, 13 F.C.C.R. 7418, 7421 ¶ 4 (1998) (providing for assignment of new digital television channels from existing space allocated for channels 2–51); BENJAMIN ET AL., *supra* note 16, at 338–40 (discussing the decision to give each broadcast television licensee a digital television license).

74. *See* Revision of Part 15 of Commission's Rules Regarding Ultra-Wideband Transmission Systems, 17 F.C.C.R. 7435, ¶ 6–7 (2002) (defining the technical characteristics of UWB); *Watch This Airspace*, ECONOMIST TECH. Q., June 22, 2002, at 21 (stating that UWB "involves transmitting very short pulses on a wide range of frequencies simultaneously at low power").

the very low power involved because the system is sending bits of data along a wide swath of spectrum in small packets. As long as the recipient has the appropriate algorithm, it can reassemble the data.[75] The FCC has considered various proposals to devote spectrum to a broad range of UWB technologies, and to spread spectrum devices more generally. It has taken the significant step of approving some uses of UWB, but it allows them only on limited portions of the spectrum.[76]

UWB proponents, though, put forward a strong case that their service could be added to a much wider range of spectrum without causing significant interference. In fact, they credibly argue that UWB's interference will not rise above the interference created by background atmospheric radiation (i.e., the radiation in the universe) and unintentional radiators (electrical appliances that are not designed to emit radio waves but do so as a byproduct of their operation, such as light switches and VCRs).[77] UWB operates at such low

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75. *See* David G. Leeper, *Wireless Data Blaster*, SCI. AM., May 2002, at 65 (discussing the properties of UWB transmission).

76. *See* Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, 17 F.C.C.R. 7435 ¶ 2 (2002) (authorizing limited use of UWB devices while acknowledging that "the standards contained in this Order are extremely conservative"); 47 C.F.R. § 15.247 (permitting the use of spread spectrum technology on a few portions of the spectrum); Amendment of Part 15 of Commission's Rules Regarding Spread Spectrum Devices, 17 F.C.C.R. 10,755 ¶ 1 (2002) (streamlining some regulations applicable to spread spectrum, but retaining the limitations on the use of that technology to small portions of the spectrum); Amendment of Part 15 of the Commission's Rules Regarding Spread Spectrum Devices, 16 F.C.C.R. 10,036 (2001) (same).

77. *See* Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, 15 F.C.C.R. 12,086, ¶ 1 (2000) (stating that UWB devices could be added without interfering with existing radio services); LESSIG, *supra* note 41, at 232 n.44 ("UWB uses extremely low power transmissions that do not rise above the noise floor."); Hazlett, *supra* note 27, at 508 (stating that "legal devices like Pentium chips emit higher radiation levels in incidental operation (i.e., without providing wireless communications service)" than UWB); Mark Wigfield, *Tiny New Economy Company Spends Heavily on Lobbying To Push U.S. To Test Technology*, WALL ST. J. (July 14, 2000), at A16 ("Ultrawideband's solution is to turn 'garbage' spectrum—now occupied by background radio emissions of such devices as computers and electric shavers—into usable airwaves for a host of new services.").

I use the term "unintentional radiators" as a shorthand that comprises two different legal categories: "unintentional radiators" and "incidental radiators." The former is defined as "[a] device that intentionally generates radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction." FCC General, 47 C.F.R § 15.3(z) (2001). VCRs and computers (which contain wires conducting energy but are not intended to transmit energy through the spectrum) are examples of unintentional radiators. Review of Part 15 and Other Parts of Commission's Rules, No. 01-278, 2002 WL 1586363, at n.3 (FCC July 19, 2002). The regulations define an "incidental radiator," meanwhile, as follows: "A

power, and over such a wide swath of spectrum, that "to traditional receivers their signals are indistinguishable from background noise."[78] In this way, one might fairly say that UWB causes no additional interference; users would not be able to discern any degradation of their existing signals.[79]

The bottom line is that much spectrum appears to be unused or underused, in the sense that services could be added that would cause little or no harm to existing uses. Indeed, the FCC itself has stated as much. In setting out its 2000 policy statement proposing a loosening of restrictions on the use of spectrum, the FCC acknowledged that a "preclusion of higher valued uses might occur if service flexibility is restricted by rule or the cost of trading is high. When considered across our many services, these factors may leave a substantial amount of spectrum unnecessarily lying fallow."[80] The FCC has also recognized that allowing new uses of the spectrum can have the effect of avoiding this underutilization:

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device that generates radio frequency energy during the course of its operation although the device is not intentionally designed to generate or emit radio frequency energy. Examples of incidental radiators are dc motors, mechanical light switches, etc." 47 C.F.R. § 15.3(n). These two categories thus contain devices that emit radio frequency energy as a byproduct of their intended activity.

78. Kevin Werbach, *Open Spectrum: The Paradise of the Commons*, RELEASE 1.0, Nov. 20, 2001, at 1, 5 n.1; *see also* Faulhaber & Farber, *supra* note 58, at 11 (stating that, "for most purposes, [UWB] is part of the background radio noise, and non-UWB receivers that are designed to reject noise would not recognize the signal, so there is no interference with high powered broadcasters"); *Watch This Airspace*, *supra* note 74, at 21 (suggesting that UWB signals "pass unnoticed by conventional radio receivers"); Robert X. Cringely, *The UWB Era*, WORTH, Mar. 2002, at 68 (stating that UWB "is virtually undetectable and . . . doesn't interfere").

79. *Bandwidth from Thin Air*, THE ECONOMIST, Nov. 6, 1999, at 85–86; David R. Hughes & Dewayne Hendricks, *Spread-Spectrum Radio*, SCI. AM., Apr. 1998, at 95; *see also* Hazlett, *supra* note 27, at 444–49 (noting that UWB causes no noticeable interference with signals and describing the regulatory hurdles slowing its adoption).

80. Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, 15 F.C.C.R. 24,178, ¶ 11 (2000); *see also* 1998 Biennial Regulatory Review—Streamlining of Radio Technical Rules in Parts 73 and 74 of the Commission's Rules, 15 F.C.C.R. 21,649, ¶ 20 (2000):

> The Commission realizes that many stations are operating at less than 'full' facilities because of other Commission regulations, other government agencies' limitations, or restrictions of local jurisdictions. . . .
>
> . . . Thus, we conclude that the public interest would be served by adopting procedures to promote more efficient use of FM spectrum by making available this underutilized spectrum on a demand basis for competing broadcast uses.

(footnote omitted) (quoting Modification of FM Broadcast Station Rules to Increase the Availability of Commercial FM Broadcast Assignments, 94 F.C.C.2d 152, ¶ 65 (1983)).

> More intensive use of spectrum that is already licensed but is underutilized or inefficiently utilized has the potential to help alleviate imbalances between the supply and demand for spectrum in certain markets, address the problem of underserved rural areas, and, in general, ensure the efficient provision of existing and new wireless services to all markets.[81]

The FCC's actions have not matched its rhetoric, however, so the underutilization of spectrum persists.[82] And that raises the question on which this Article focuses: When a proposed service is denied access to the spectrum and seeks to challenge that denial on First Amendment grounds, what sort of review should a court apply, and what government interests will justify keeping it off the spectrum?

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81. Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, 15 F.C.C.R. 24,203, ¶ 8 (2000); *see also* Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets, 15 F.C.C.R. 24,178, ¶ 12 (2000) (stating that "[a]n effectively functioning system of secondary markets would encourage licensees to be more spectrum efficient by freely trading their rights to unused spectrum capacity").

82. The lengthy rulemaking process entailed in an FCC decision to change the allocation of a portion of the spectrum means that a decision to open up underused or underutilized spectrum for additional services often takes a significant amount of time. Insofar as the government is in the process of reducing the underutilization of a slice of spectrum (i.e., increasing its usage) by authorizing additional services, *see, e.g.*, *supra* note 60 and accompanying text, it would not be entirely accurate to describe that slice as simply underused: this portion of the spectrum would be temporarily underused but in the process of being more fully—and perhaps completely—utilized. Thus, it would seem more accurate to describe this slice of spectrum as in transition.

The "in transition" appellation could encompass the entire spectrum, however, if one applies the term broadly. After all, the FCC is always able to change the allocation of a given slice of spectrum, and might be said to be constantly "considering" doing so (in the sense that the Commission could choose to act at any time). Moreover, it seems reasonable to posit that almost all current spectrum allocations will change within the next fifty years, and thus are in a long-term "transition."

Such an interpretation of "in transition" is unnecessarily, and unhelpfully, broad. Surely any spectrum *can* be reallocated, but at any given time the FCC has initiated formal proceedings to change only some parts of it. And, in the absence of a formal beginning of the administrative process necessary to change an allocation, it would be inaccurate to refer to spectrum as "in transition."

This is significant because a service provider that wanted to offer a new service would stand on different footing with respect to spectrum in transition than it would to simply unused or underused spectrum. If the government were in the process of allocating that spectrum for a different use that would interfere with the proposed service, the potential provider's position would be considerably weaker. One could not say that the spectrum was straightforwardly unused, and that undercuts the viability of a claim premised on the existence of unused spectrum (i.e., a claim based on the arguments put forward in this Article).

II. DIRECT GOVERNMENT CONTROL OF A MEANS OF COMMUNICATION

A. A Hypothetical: The Government Licenses All Printing Presses in a Content-Neutral Manner

Suppose that the federal government decided to claim control of all printing presses in the United States: the government seized (and paid for) all printing presses that currently existed and declared that there would be no private ownership of any printing presses that may come into existence.[83] The government added, though, that it would license all current presses, and all those that might be manufactured in the future, to private users. That is, the government would not be managing the presses, but would instead turn them over to private publishers, who could publish their newspapers, magazines, etc. To avoid any appearance of a content-based judgment about who received the licenses, the government would select the winners of the licenses in a content-neutral manner (say, via a lottery or an auction). And to avoid any suggestion of government control of newspapers once they obtained their licenses, the government by statute would provide that the licenses were freely transferable and were not revocable. A license, the government would explain, was a property right, not unlike the medallions that some cities give to taxicabs that allow them to operate. So the government would therefore have a licensing regime but otherwise would not exercise control over the licensees.

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83. Paying for the printing presses should eliminate any viable Fifth Amendment objections to this scheme. The Takings Clause does not prevent the government from seizing property if the government pays for it. The Clause prevents the government from taking private property without just compensation. U.S. CONST. amend. V. Seizing all the printing presses and paying for them would be akin to seizing all the garlic presses and paying for them: it may be bad policy, and but it would not seem to run afoul of the Takings Clause.

It bears noting that the Takings Clause has been interpreted to impose a slight limit on the government's exercise of its eminent domain power, in the form of a requirement that the property be taken for public use. But the Supreme Court has interpreted the words "public use" very broadly in the takings context, stating that "where the exercise of the eminent domain power is rationally related to a conceivable public purpose, the Court has never held a compensated taking to be proscribed by the Public Use Clause." Haw. Hous. Auth. v. Midkiff, 467 U.S. 229, 241 (1984); *see also id.* ("[T]he Court has made clear that it will not substitute its judgment for a legislature's judgment as to what constitutes a public use 'unless the use be palpably without reasonable foundation.'") (quoting United States v. Gettysburg Elec. Ry. Co., 160 U.S. 668, 680 (1896)). It seems, therefore, unlikely that the Takings Clause would pose a significant obstacle to the government's plan to pay for all printing presses.

What would be wrong with this, as a matter of First Amendment law? A critic might object that the government had effectively taken control of newspapers out of private hands. But the government would not be exercising control over the printing presses, and the private publishers of those newspapers would continue to publish them. In response to any suggestion that the government was favoring newspapers it liked, the government could point out that its selection scheme was neutral. Maybe the problem would be that the government could try to influence printers in more subtle ways. That is, once newspapers knew that the government controlled their licenses, they would limit their coverage in order to avoid annoying government officials. But the government could respond that by enshrining in statute the irrevocability and transferability of licenses, it had abjured such influence. And, of course, as soon as the government did, in fact, attempt to penalize any newspaper for content-based reasons, that newspaper could then bring a legal challenge against the action, and perhaps the entire scheme.

Cases are of limited help, as no cases are squarely on point. The closest fit might appear to be cases involving prior restraints, and in particular *Near v. Minnesota*,[84] in which the Court invalidated a prior restraint on the publication of a newspaper.[85] Linguistically, a license is a restraint imposed prior to publication, but prior restraints are understood to be more specific than that—restraints on publishing certain kinds of information, not restraints on operating a newspaper in the first place. *Near* highlights this: the challenged regulation did not involve licensing per se, but rather an injunction that pertained to particular forms of speech. It is true that the injunction in that case effectively shut down the newspaper, but the Minnesota statute involved was no general licensing regime. It provided for the enjoining of the publication of "malicious, scandalous and defamatory newspaper, magazine or other periodical,"[86] and the speech involved was an allegation that a Jewish gangster effectively controlled much of Minneapolis.[87] Far from a content-neutral licensing scheme, the injunction was triggered by the content of the speech, and only by content adjudged to be particularly unworthy of publication.

84. 283 U.S. 697 (1931).

85. *Id.* at 722–23.

86. *Id.* at 701–02 (quoting Act of Apr. 20, 1925, ch. 285, 1925 Minn. Laws 358).

87. *Id.* at 703–04.

The awkwardness of the doctrinal and case law fit should not trouble us greatly, though. The reason there is no case law directly on point is that the government has not instituted a licensing regime that singles out printing presses. If the government were to seize control of all the garlic presses in this country (again, with payment in full for them), no fundamental rights would be implicated. But when the government instead seizes printing presses, it directly implicates the freedom of speech and of the press by subjecting them to a special regulatory regime. The publishers would have a strong argument that any sort of licensing regime specific to newspapers—even a content-neutral one—created constitutional problems simply by singling out newspapers for a particular form of regulation and its attendant hassles. Indeed, the government seizing control of a means of printing or sending speech is a paradigmatic First Amendment case, raising concerns that seem to underlie the First Amendment.[88]

To what sort of judicial scrutiny would this licensing regime be subject? As with many other structural regulations of the means of communication, the regulation would be content-neutral, so strict scrutiny might seem inapplicable. That said, the regulation would still seem to be subject to heightened scrutiny.[89] The basic level of First Amendment scrutiny for content-neutral structural regulation of speakers is the intermediate scrutiny of *Turner Broadcasting System, Inc. v. FCC*,[90] under which a regulation must serve an "important or substantial governmental interest" unrelated to the suppression of speech, and cannot burden substantially more speech than is necessary to further that interest.[91]

There would be a plausible argument that this licensing scheme was subject to an even higher hurdle. The Supreme Court has usually

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88. *See* Lovell v. City of Griffin, 303 U.S. 444, 451–52 (1938):

> The struggle for the freedom of the press was primarily directed against the power of the licensor. It was against that power that John Milton directed his assault by his "Appeal for the Liberty of Unlicensed Printing." And the liberty of the press became initially a right to publish "*without* a license what formerly could be published only *with* one." While this freedom from previous restraint upon publication cannot be regarded as exhausting the guaranty of liberty, the prevention of that restraint was a leading purpose in the adoption of the constitutional provision.

(footnote omitted) (quoting WILLIAM H. WICKWAR, THE STRUGGLE FOR THE FREEDOM OF THE PRESS 15 (1928)); City of Lakewood v. Plain Dealer Publ'g Co., 486 U.S. 750, 760 (1988) ("Indeed, a law requiring the licensing of printers has historically been declared the archetypal censorship statute.") (citing 4 WILLIAM BLACKSTONE, COMMENTARIES *152).

89. *See infra* notes 205–09 and accompanying text.

90. 512 U.S. 622 (1994).

91. *Id.* at 662 (quoting United States v. O'Brien, 391 U.S. 367, 377 (1968)).

applied intermediate First Amendment scrutiny to content-neutral regulations, but *Minneapolis Star & Tribune Co. v. Minnesota Commissioner of Revenue*[92] is a notable exception. In that case, the Supreme Court invalidated a use tax applicable to publications, even as it conceded that there was no indication (apart from the nature of the tax itself) of any censorial or otherwise impermissible motive on the part of the legislature that enacted the tax.[93] The Court stated that taxation of newspapers was not permissible "unless the State asserts a counterbalancing interest of compelling importance that it cannot achieve without differential taxation."[94] Note that the Court required an interest of "compelling" importance that the government "cannot achieve" absent its regulation. This is the language of strict, not intermediate, scrutiny.

It is not clear, though, that this more rigorous scrutiny under *Minneapolis Star* would apply to the licensing regime laid out above. Licensing might seem more troubling than taxation in the degree of control it affords to the government, which might support review at least as strict as that in *Minneapolis Star*. On the other hand, the government would not be exercising that control, as it would give out the licenses freely. And in *Turner* the Court suggested that *Minneapolis Star* turned on the fact that the challenged tax applied to only a small number of newspapers, whereas in this hypothetical the licensing scheme would apply equally to all newspapers.[95] One might also argue that the licensing as implemented in this hypothetical would impose relatively small burdens or other costs on newspapers that would not exist in an unregulated market,[96] whereas the taxation in *Minneapolis*

92. 460 U.S. 575 (1983).

93. *Id.* at 580, 592–93.

94. *Id.* at 585.

95. *See Turner*, 512 U.S. at 659 (stating that, in *Minneapolis Star*, "[w]e subjected the tax to strict scrutiny for two reasons: first, because it applied only to the press; and, second, because in practical application it fell upon only a small number of newspapers"); *id.* at 660 (stating that the tax at issue in *Minneapolis Star* was subject to strict scrutiny because it "targeted a small number of speakers, and thus threatened to 'distort the market for ideas'" (quoting Leathers v. Medlock, 499 U.S. 439, 448 (1991))).

96. This is particularly clear if the government auctioned rights to printing presses. If the government conducted auctions that did not favor any class of bidders (i.e., with no bidding preferences or other mechanisms to skew the power of some bidders), there is little reason to think that government auctions would differ from private auctions (i.e., private sales). Recall that the government would have paid for the printing presses that it seized via eminent domain (to avoid violating the takings clause). Assuming that it did so, and that it did not constrict the quantity of presses (i.e., it let the market produce them as before), then it should have no effect on prices to add to the existing regime of private transactions a two-step process in which the

Star imposed a nontrivial cost on publications that would not have existed absent regulation.

The precise level of scrutiny of this licensing scheme would probably not affect the outcome of a First Amendment challenge, however, because the government's action would seem unjustifiable under intermediate scrutiny. That is, it seems unlikely that the government could provide a justification that would satisfy even the *Turner* standard, which, after all, requires that challenged government action be tailored to an "important or substantial" government interest.[97] This standard, as *Turner* itself revealed in its treatment of the government's proffered interests, has some bite. The *Turner* Court found that a requirement that local broadcasters be carried on cable systems could satisfy this burden only if "the Government has adequately shown that the economic health of local broadcasting is in genuine jeopardy and in need of the protections afforded by must-carry."[98] Courts applying *Turner* scrutiny have similarly applied its scrutiny with some rigor, invalidating a wide range of content-neutral regulations.[99] In order to show that its action is tailored to an "impor-

government buys all presses and then immediately sells them to the highest bidder. The main reason to expect price swings is simply the likelihood that many bidders would be wary about the government's willingness to leave the quantity of presses undisturbed. Note also that, to the extent that bidders can bid for particular presses that are expensive to move from their existing locations, one might expect strategic bidding that would affect the costs for some incumbents. But it would seem obligatory for the government, in order to make its scheme work fairly, to pay for the immediate transport of printing presses from one location to another. This would be quite expensive, of course, and therefore a good argument against this governmental role in the first place. But it would seem compelled by principles of neutrality.

97. *Turner*, 512 U.S. at 662.

98. *Id.* at 664–65.

99. *See* Time Warner Entm't Co. v. FCC, 240 F.3d 1126, 1128 (D.C. Cir. 2001) (invalidating regulations limiting the percentage of national subscribers a cable system operator could have and the percentage of channels its affiliates could occupy on its system); Horton v. City of Houston, 179 F.3d 188, 195 (5th Cir. 1999) (holding that a fee for nonlocally produced programming "demonstrates the lack of correlation between the amount charged to non-locally produced programs and its stated justification for imposing a fee"); Preferred Communications, Inc. v. City of Los Angeles, 13 F.3d 1327, 1331 (9th Cir. 1994) (holding that "limiting speech to a single operator is 'substantially broader than necessary to achieve the government's interest,' and therefore invalid" (quoting Ward v. Rock Against Racism, 491 U.S. 781, 800 (1989))); Chesapeake & Potomac Tel. Co. v. United States, 42 F.3d 181, 202 (4th Cir. 1994) (invalidating a statute that forbade local telephone companies from providing video programming to their subscribers because, in light of less burdensome available alternatives, it was "not 'narrowly tailored' to serve the goals to which it is dedicated"); U.S. West, Inc. v. United States, 48 F.3d 1092, 1105 (9th Cir. 1994) (invalidating a similar statute because its goals could "be achieved through a variety of less speech-restrictive means"). After *Chesapeake* and *U.S. West* were decided, Congress repealed the relevant provision, so those opinions were vacated as moot. On

tant or substantial" interest, in other words, the government would be required to show a real harm that is directly alleviated by its action.[100] The significance of this is that the government would likely be hard-pressed to offer a justification for licensing newspapers (and not businesses more generally) that would constitute an important or substantial government interest. The difficulty that a licensing regime would have in satisfying First Amendment standards is reflected in the consensus view: "Although it is virtually impossible to find a case that directly so holds, it is fairly clear that any attempt to license a newspaper or magazine would violate the Constitution."[101]

Now we turn to spectrum. The government's regulatory regime for spectrum is similar to the one I outlined above,[102] except that the granting and renewing of licenses often has been content-based.[103] Holding aside the question of how licensees are chosen and granted renewals, the government's claim of control, and its decision to license frequencies while retaining that control, are the same for spectrum as they are for printing presses in the example above. On this issue of government control and licensing, what are the relevant First Amendment considerations?

One would have a hard time arguing that the First Amendment does not apply to spectrum. Like printing presses, spectrum is used almost exclusively for communications.[104] What is transmitted is information. In fact, it is misleading to refer to "spectrum" as if it had some independent existence. We do so as a convenient shorthand, but what we are really talking about when we refer to a spectrum license is the right to transmit radio waves at a certain frequency in a particular location.[105] The only things that can be transmitted over spectrum are radio waves, and in virtually all cases such waves are com-

these cases, see Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1, 54–59 (2001).

100. Stuart Minor Benjamin, *Proactive Legislation and the First Amendment*, 99 MICH. L. REV. 281, 288–91 (2000).

101. Spitzer, *supra* note 7, at 993; *see also* LESSIG, *supra* note 41, at 289–90 ("It would certainly be unconstitutional to force newspapers to buy a license to print.").

102. *See supra* text accompanying note 83.

103. *See* BENJAMIN ET AL., *supra* note 16, at 81–137 (demonstrating that in FCC license hearings, content often played a major role).

104. *See infra* notes 180–82 and accompanying text.

105. And perhaps also at a particular time (if the frequency is divided into time intervals) and to a particular location (if it is not a general broadcast). *See* BENJAMIN ET AL., *supra* note 16, at 24–34 (explaining spectrum and frequency generally).

municating information. Pipes are used to transport many things—gas, liquid, electricity, etc. Steel is fashioned into garlic presses as well as printing presses. Spectrum, though, is used to send information—some combination of voice, video, and data—from one point to another. It can send different kinds of information, just as a printing press can create different kinds of printed matter and a fiber optic cable can send different kinds of information. But, like a printing press or a fiber optic cable, spectrum is useful only for transmitting radio waves[106]—and almost all of those waves contain information.

The other aspects of these regulatory regimes seem identical for the printing press and spectrum examples. In both cases the government has seized control; in both cases would-be speakers must now obtain a government license. So it would seem that the same First Amendment analysis would apply. The obvious difference here is that there is understood to be a justification for government control of the spectrum that does not exist for printing presses: scarcity, which is treated as distinguishing spectrum from printing presses and justifying government control of the former but not the latter.[107]

B. Another Hypothetical: The Government not only Licenses Printing Presses, but also Keeps Some Presses Idle by Refusing To License Them

Now imagine that the government not only seized control of printing presses but also decided to limit the number of printing presses it would license. That is, suppose a few new publishing ventures were announced, with entities planning to establish printing facilities in the state in order to start several new community newspapers; and suppose these ventures had the funds to purchase new printing presses that they would use for the purposes of this venture. Finally, imagine that the government responded by saying that it would invoke its licensing power in an unusual way: it would license the operation of some of these new printing presses, but not all of them. Once again, it would distribute these licenses in content-neutral manner. The government would not be choosing among the applicants, but rather would be choosing how many licenses these applicants would have a shot at; all the applicants would then have a chance to obtain the license through a content-neutral distribution

106. Indeed, spectrum is merely the range of frequencies suitable for the sending of radio waves. *See supra* note 1.

107. *See infra* notes 124–35 and accompanying text.

scheme. And if the wise judges of the court suggested that the government was violating the First Amendment by preferring incumbents, we can posit that the government would happily agree to impose its content-neutral selection method for the restricted number of licenses on all printing presses—that is, for both existing and proposed printing operations. But, in any event, the government would keep some presses idle by refraining from licensing them.

Again, nothing in existing doctrine or case law is on all fours, because the government has never tried to do such a thing. The reason the familiar doctrines of First Amendment law do not squarely apply is that they are aimed at nuances of abridgement. This wolf, as it were, comes as a wolf.[108] As before, the First Amendment would be implicated, and some form of heightened scrutiny would apply. Indeed, there would be a reasonable argument that the relevant standard was strict scrutiny. The government might try to distinguish *Minneapolis Star* on the ground that its tax applied to a small number of newspapers, whereas here the licensing scheme would fall upon all newspapers equally.[109] But if *Minneapolis Star* were not so cabined,[110] its application of strict scrutiny to newspaper taxation would seem to extend to limits on licenses to print. Indeed, such limits would be even more troubling than mere taxation of newspapers. A regime that required licenses and constrained the number of licenses would raise all the issues that taxing does, and more.

If *Minneapolis Star* were read to apply only to differential constraints on media enterprises, there would still be other arguments for strict scrutiny in this context. Mere government licensing as a looming presence raises fears, but it does not impose any limits on anyone. Here, by contrast, there would be a limit—one that constricted the number of newspapers that could publish. The government would be constraining the flow of information via newspaper. A variety of government actions can have the effect of limiting the amount of information contained in newspapers. If there were no income taxes, for instance, newspaper publishers might spend the money saved on taxes for additional printed pages. But this government decision would be

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108. *Cf.* Morrison v. Olson, 487 U.S. 654, 699 (1988) (Scalia, J., dissenting) ("Frequently an issue of this sort [involving the separation of powers] will come before the Court clad, so to speak, in sheep's clothing . . . . But this wolf comes as a wolf.").

109. *See* Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 659 (1994) (emphasizing that the tax in *Minneapolis Star* "fell upon only a small number of newspapers").

110. Or if a court found that the licensing regime did hurt some newspapers more than others.

different, because it would single out printing presses, rather than applying to all economic activity. And it not only would create a licensing scheme but also would more specifically limit the number of players in the market. It would be akin to a limit on how many pages or how many copies a newspaper could produce.[111]

In this way, it would seem to run afoul of core First Amendment doctrine, in that individuals would receive information from fewer sources than they would absent the regulation. For many theorists, the central First Amendment value is a profusion of information inputs.[112] Although it has not been at the fore of the Supreme Court's jurisprudence, the Court has sometimes suggested the importance of the transmission of expansive views to the public.[113] A related constitutional concern is that the government would be restricting speakers' ability to publish. This has long been at the center of the Supreme Court's jurisprudence.[114] The First Amendment, after all, squarely limits the government's ability to abridge speech, and the Court has

111. *See* Grosjean v. Am. Press Co., 297 U.S. 233, 250 (1936) (invalidating a sales tax imposed on newspapers with a circulation of more than 20,000 copies per week and holding that, although newspapers may not enjoy immunity from general taxation, a tax calculated to "limit the circulation of information to which the public is entitled" is wholly inconsistent with the First Amendment); *see also* Leathers v. Medlock, 499 U.S. 439, 448 (1991) (stating that strict scrutiny is applicable to measures that "distort the market for ideas"); *Turner*, 512 U.S. at 660 (same).

112. *See, e.g.*, LESSIG, *supra* note 41, at 115–16 (stating that the aim of the protection of free speech is to create incentives to produce ideas and move them to the intellectual commons); Alexander Meiklejohn, *The First Amendment Is an Absolute*, 1961 SUP. CT. REV. 245, 256 (arguing that the First Amendment should protect the "forms of thought and expression within the range of human communications that allow one to vote properly"); Benkler, *supra* note 38, at 7 ("[T]he First Amendment operates . . . as an expression of a fundamental commitment of the American polity to individual expressive autonomy and to robust democratic discourse in a widely distributed and diverse polity.").

113. The classic quotation is from Associated Press v. United States, 326 U.S. 1, 20 (1945), where the Court stated that the First Amendment "rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public."

114. *See, e.g.*, Saia v. New York, 334 U.S. 558, 559–60 (1948) (invalidating an ordinance requiring a permit from the chief of police prior to using a sound amplification device); Thomas v. Collins, 323 U.S. 516, 539–40 (1945) (stating that "[a]s a matter of principle a requirement of registration in order to make a public speech would seem generally incompatible with an exercise of the rights of free speech and free assembly" and "a requirement that one must register before he undertakes to make a public speech to enlist support for a lawful movement is quite incompatible with the requirements of the First Amendment"); Murdock v. Pennsylvania, 319 U.S. 105, 112 (1943) (finding permissible a tax on the income of a person who engages in activities protected by the First Amendment, and impermissible a tax imposed on that person for the privilege of engaging in those activities).

quite properly found that abridgements include roadblocks and other restrictions that are aimed at forms of communication.[115]

An additional set of reasons for concern about a regime that allowed the government to constrict the supply of licenses revolves around the government's incentives to impose tighter limits than are necessary. First, the government would have an incentive to create fewer licenses as a means of enhancing the government's power and control. Insofar as those with power have an interest in retaining it, the incentive not to allocate frequencies exists. If the government imposes limits on the number of licenses, it signals to current licensees seeking to expand that the government is willing to use its constraining authority. With any luck (from the government's perspective), this may produce licensees who are inclined to stay in the government's good graces. In any event, the government only strengthens its position by demonstrating a willingness to limit the granting of licensees as it sees fit. Keeping a resource scarce is a way to keep power. By contrast, if the government fails to act on its power and gives out licenses to the maximum extent that it can, it foregoes these levers.[116] Second, if the government sells licenses (as it currently does for most spectrum), it may receive less money from bidders for those licenses if it opens up the supply of licenses to the maximum that can operate without interfering with each other. Depending on the shape of the relevant curves, maximizing the number of licensees (even if all are paying) might not be consistent with maximizing the revenue flowing to the government.[117] The government, as purveyor of the licenses,

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115. *See, e.g.*, Watchtower Bible & Tract Soc'y, Inc. v. Village of Stratton, 122 S. Ct. 2080, 2089 (2002) (invalidating an ordinance regulating the activities of solicitors and canvassers).

116. *See* Spitzer, *supra* note 7, at 1060–61:

> [I]t would be safer for first amendment values if the government sold all the spectrum and then bought whatever it needed in the market. There would be no incentive to reduce the volume of broadcast speech under that procedure. . . . If the government were allowed to sell only as much spectrum as it wished, rather than to sell all the spectrum and then buy as much as it wished, less spectrum would be available for private communication. From the perspective of first amendment values, the latter approach would be preferable.

117. *See* Buck, *supra* note 26, ¶ 116 ("Now that politicians have come to depend on auction revenue for balancing the budget, it is in their interest to keep access to the spectrum artificially scarce, and therefore expensive."); Spitzer, *supra* note 7, at 1060:

> If the federal government auctioned off property rights in the spectrum while keeping title to some of the spectrum, the government would have an incentive to restrict the volume of spectrum sold and to raise the price of spectrum. . . . When searching for the revenue-maximizing price, the government would act like a profit-maximizing monopolist. The government would restrict the volume of spectrum that it sold so as to force prices above the competitive level and increase total revenues.

might find that the best way to maximize its total revenue is to constrict the market for licenses by keeping some off the market. After all, a basic economic argument against monopolies is that a profit-maximizing monopolist might produce a suboptimal supply of the good it monopolizes.[118] This is a strategy that many monopolists are thought to pursue, and the government is a monopolist with respect to the spectrum.

A third reason for concern flows from the fact that the costs resulting from allowing new entry will be salient, but the costs of not allowing new entry will be less visible. Adding uses on to the spectrum may increase interference, and certainly will increase competition for incumbents. Those incumbents have every incentive to play up the potential negative effects of permitting new uses. The absence of new entrants, meanwhile, merely continues the status quo. The costs of denying entry are perceptible only with respect to what might have been. Thus one should expect a bias toward false negatives (or Type II error[119])—the government refusing to allow uses on the spectrum even when it should. As Thomas Hazlett put it, "The allocation system will be especially prone to *Type II* errors because the losses associated with overutilization of spectrum will be closely monitored and carefully reported, while losses from underutilization generally will not be."[120]

CHARLES L. JACKSON ET AL., PUBLIC HARMS UNIQUE TO SATELLITE SPECTRUM AUCTIONS 3, Strategic Policy Research, Inc., *at* http://www.spri.com/pdf/reports/sia/pubharms.pdf (Mar. 18, 1996) (on file with the *Duke Law Journal*) ("To increase revenues, individual countries conducting auctions will have an incentive to restrict the supply of satellite spectrum (e.g., warehousing spectrum and orbital resources), implement a priori planning and oppose new allocations of satellite spectrum.").

Congress, in apparent response to this fear, has in some contexts prohibited the FCC from basing decisions on how to assign licenses "solely or predominantly on the expectation of Federal revenues." 47 U.S.C. § 309(j)(7)(B) (1994). Because this prohibition applies to the assignment of particular licenses (that is, after the FCC has already decided to allocate licenses to a particular service), it does not directly respond to the concern that the government might keep some spectrum off the market entirely by failing to allocate it. But the legislation does seem to indicate a congressional awareness of the incentives created by the government's monopoly power over the spectrum.

118. *See* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE § 1.2 at 12 (2d ed. 1999) (discussing this argument against monopolies).

119. *See, e.g.,* J. Gregory Sidak, Hal J. Singer, and David J. Teece, *A General Framework for Competitive Analysis in Wireless Telecommunications*, 50 HASTINGS L.J. 1639, 1643 (1999) (noting that "[a] Type I error is the failure of the Commission to deter a *harmful* event," whereas "a Type II error is the failure of the Commission to allow a *beneficial* event").

120. Hazlett, *supra* note 27, at 389.

More generally, insofar as incumbents can affect the government's strategy, incumbents' incentives run toward restrictions on the supply of licenses.[121] Incumbents have never relished the prospect of more competition, and their existence as licensees—and the rents that flow from their position as incumbents—give them the ability to mount opposition to new entrants. Significantly, this is not just a matter of theory. The history of broadcast licensing demonstrates that incumbents sought—successfully—to persuade the government to limit its distribution of licenses.[122]

The upshot is that the addition of limits to the licensing scheme would substantially increase the burdensomeness of the scheme. One result of the government constraining the number of printing presses is that strict scrutiny might well apply. More fundamentally, though, the imposition of constraints on the number of presses would almost certainly doom the regulation whether intermediate or strict scrutiny applied, because it would be difficult for the government to put forward a sufficient interest for its action.[123] It is hard to imagine a justification for the government seizing control over printing presses, and it is even harder to imagine a justification for a limitation in the number of speakers. Thus, the ultimate fate of regulations involving government control of printing presses and those involving government restrictions on the number of licenses for printing presses would likely be the same.

When I transfer the hypothetical to spectrum, however, the picture changes. We already have a justification for government control of the spectrum, in the form of scarcity. The question is whether it can leaven the judicial scrutiny of a governmental limit on the users of spectrum, and the answer is no. In fact, as the next Part discusses, the very justification for government control of the spectrum undercuts any limit on the amount of spectrum that is licensed.

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121. *See, e.g.*, Charles D. Ferris & Terrence J. Leahy, *Red Lions, Tigers and Bears: Broadcast Content Regulation and the First Amendment*, 38 CATH. U. L. REV. 299, 322–23 (1989) (noting that "it serves the interests of those who have gained access to a frequency to restrict as much as possible its availability to potential competing users").

122. *See* Hazlett, *supra* note 20, at 138–43 (marshaling historical evidence to argue that incumbents successfully sought barriers to entry in the form of limits on the distribution of spectrum licenses).

123. *See* Minneapolis Star & Tribune Co. v. Minn. Comm'r of Revenue, 460 U.S. 575, 585 (1983) (noting that singling out particular elements of the press for differential treatment is subject to strict scrutiny "unless justified by some special characteristic of the press").

III. RATIONALES FOR LENIENT REVIEW

A. The Implications of Scarcity

The Supreme Court has distinguished its treatment of government control of the spectrum from the treatment it would apply to similar regulation of printing presses. In so distinguishing, the Court has relied on the scarcity rationale. The main case is *NBC v. United States*,[124] in which the Court faced its first serious challenge to the regulation of broadcasting. At issue were the chain broadcasting rules, which limited the ability of radio networks to control the programming of their broadcast affiliates. NBC's arguments to the Court focused on the First Amendment. NBC contended that "[r]adio is no less entitled to the protection of the guaranties of the First Amendment than is the press."[125] According to NBC, "only clearly defined interests, the protection of which is of greater importance than the protection of free speech, will support the threat to the freedom of speech inherent in the licensing of the instruments or vehicles of speech."[126] NBC did not argue that there were no such countervailing interests; instead, NBC asserted that there was one such interest—interference (or, as NBC put it somewhat more elegantly, "the sheer physical necessity of preventing destructive electrical interference between stations").[127] Concerns about interference, NBC argued, could not justify the government's regulatory regime.

The Supreme Court rejected NBC's arguments, finding that government control of the spectrum, and the rules it implemented pursuant to that control, were justified by the scarcity of the spectrum. Its main reasoning appeared in a single paragraph:

> [There are] certain basic facts about radio as a means of communication—its facilities are limited; they are not available to all who may wish to use them; the radio spectrum simply is not large enough to accommodate everybody. There is a fixed natural limitation upon the number of stations that can operate without interfering with one another. Regulation of radio was therefore as vital to its development as traffic control was to the development of the automobile. In enacting the Radio Act of 1927, the first comprehensive scheme of

124. 319 U.S. 190 (1943).

125. Brief for Appellant National Broadcasting Company at 38, NBC v. United States, 319 U.S. 190 (1943) (No. 554).

126. *Id.* at 29–30.

127. *Id.* at 31.

> control over radio communication, Congress acted upon the knowledge that if the potentialities of radio were not to be wasted, regulation was essential.[128]

Spectrum, according to the Court, was not just another commodity. It was in particularly short supply, and it was legitimate for the government to decide that it should be in charge of doling out that supply. The Court thus found that the scarcity of the spectrum justified—perhaps even called for—government control.

This prevailing rationale for broadcast regulation was reemphasized by *Red Lion Broadcasting Co. v. FCC*.[129] A radio station challenged an FCC rule providing that, if a broadcast licensee aired a personal attack or political editorial against an identified person or group, the licensee was obligated to provide that person or group with an opportunity to respond to the attack or editorial.[130] The Supreme Court upheld this requirement[131]—whereas five years later the Court struck down a similar rule that applied to newspapers, without suggesting that *Red Lion* was no longer good law (indeed, without citing *Red Lion*).[132] What was the Supreme Court's reason for accepting the right of reply in *Red Lion*? The broadcast spectrum is scarce, the Court stated, in that "there are more immediate and potential uses than can be accommodated."[133] The Court declared that

> [O]nly a tiny fraction of those with resources and intelligence can hope to communicate by radio at the same time if intelligible communication is to be had, even if the entire radio spectrum is utilized in the present state of commercially acceptable technology. . . .
>
> Where there are substantially more individuals who want to broadcast than there are frequencies to allocate, it is idle to posit an unabridgeable First Amendment right to broadcast comparable to the right of every individual to speak, write, or publish. If 100 persons want broadcast licenses but there are only 10 frequencies to allocate, all of them may have the same "right" to a license; but if

128. *NBC*, 319 U.S. at 213; *see also id.* at 226 (rejecting NBC's First Amendment argument against the chain broadcasting rules based on the Court's conclusion that, "[u]nlike other modes of expression, radio inherently is not available to all . . . and that is why . . . it is subject to governmental regulation").

129. 395 U.S. 367 (1969).

130. *Id.* at 373–75.

131. *Id.* at 375.

132. Miami Herald Publ'g Co. v. Tornillo, 418 U.S. 241, 256–58 (1974).

133. *Red Lion*, 395 U.S. at 399.

> there is to be any effective communication by radio, only a few can be licensed and the rest must be barred from the airwaves.[134]

According to the Court, the unfortunate fact of scarcity—unfortunate because it undercuts the First Amendment goal of allowing everyone to speak and all views to be raised—allowed for government regulation of broadcasters. The Court concluded that, in light of the scarcity problem, it was reasonable for the government to regulate stations and their programming, at least to some extent.[135]

Lower courts and scholars—and even the FCC at one point[136]—have forcefully contended that the scarcity affecting spectrum is no different from the scarcity affecting newsprint or printing presses.[137]

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134. *Id.* at 388–89; *see also id.* at 396–98:

> Scarcity is not entirely a thing of the past. Advances in technology, such as microwave transmission, have led to more efficient utilization of the frequency spectrum, but uses for that spectrum have also grown apace. . . . Among the various uses for radio frequency space, including marine, aviation, amateur, military, and common carrier users, there are easily enough claimants to permit use of the whole with an even smaller allocation to broadcast radio and television uses than now exists.

135. *See id.* at 400–01:

> In view of the scarcity of broadcast frequencies, the Government's role in allocating those frequencies, and the legitimate claims of those unable without governmental assistance to gain access to those frequencies for expression of their views, we hold the regulations and ruling at issue here are both authorized by statute and constitutional.

136. *See* Complaint of Syracuse Peace Council Against Television Station WTVH, 2 F.C.C.R. 5043, ¶ 65 (1987):

> We . . . believe that the scarcity rationale developed in the *Red Lion* decision and successive cases no longer justifies a different standard of First Amendment review for the electronic press. Therefore . . . we believe that the standard applied in *Red Lion* should be reconsidered and that the constitutional principles applicable to the printed press should be equally applicable to the electronic press.

But see Repeal or Modification of the Personal Attack and Political Editorial Rules, 15 F.C.C.R. 19,973, ¶ 17 (2000) (repudiating "the dicta in Syracuse Peace Council regarding the appropriate level of First Amendment scrutiny" for broadcast), *vacated by* Radio-Television News Dirs. Ass'n v. FCC, 229 F.3d 269 (D.C. Cir. 2000).

137. *See* Telecomm. Research & Action Ctr. v. FCC, 801 F.2d 501, 508 n.4 (D.C. Cir. 1986) ("Broadcast frequencies are much less scarce now than when the scarcity rationale first arose . . . and it appears that currently 'the number of broadcast stations . . . rivals and perhaps surpasses the number of newspapers and magazines in which political messages may effectively be carried.'" (quoting Loveday v. FCC, 707 F.2d 1443, 1459 (D.C. Cir. 1983))); Coase, *supra* note 7, at 14 ("[I]t is a commonplace of economics that almost all resources used in the economic system (and not simply radio and television frequencies) are limited in amount and scarce."); Spitzer, *supra* note 7, at 1012–20 (identifying different versions of the scarcity rationale and arguing "none of these basic scarcity arguments provides a relevant difference between print and broadcast that justifies treating the two differently"); Glen O. Robinson, *The Electronic First Amendment: An Essay for the New Age*, 47 DUKE L.J. 899, 903–04 (1998) (stating that it no longer makes sense to base regulation of the radio spectrum on scarcity).

Despite these arguments that there is nothing unique about the scarcity affecting spectrum, scarcity has been and continues to be the prevailing judicial rationale for treating broadcasting differently from newspapers and other media.

In both *NBC* and *Red Lion*, the Court also noted the potential for interference with transmissions over the spectrum. And in *NBC* (and arguably in *Red Lion*), the Court seemed to suggest that interference was related to the scarcity of the spectrum and thereby helped to justify government regulation of the spectrum.[138] The potential for interference is quite real for transmissions via spectrum, so the Court's concern is understandable. Broadcast transmissions can interfere with each other such that no one's message gets through. *NBC* described the months preceding passage of the Radio Act of 1927[139] (which first declared that there could be no private ownership of the airwaves) as ones in which "[e]xisting stations changed to other frequencies and increased their power and hours of operation at will. The result was confusion and chaos. With everybody on the air, nobody could be heard."[140]

As many commentators have noted, however, interference can arise with respect to anything, and thus the fact of interference neither distinguishes spectrum from other goods nor implies scarcity.[141] If

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138. *See* NBC v. United States, 319 U.S. 190, 213 (1943):

> There is a fixed natural limitation upon the number of stations that can operate without interfering with one another. Regulation of radio was therefore as vital to its development as traffic control was to the development of the automobile. In enacting the Radio Act of 1927, the first comprehensive scheme of control over radio communication, Congress acted upon the knowledge that if the potentialities of radio were not to be wasted, regulation was essential.

(footnote omitted); *Red Lion*, 395 U.S. at 375–76:

> Before 1927, the allocation of frequencies was left entirely to the private sector, and the result was chaos. It quickly became apparent that broadcast frequencies constituted a scarce resource whose use could be regulated and rationalized only by the Government. Without government control, the medium would be of little use because of the cacaphony [*sic*] of competing voices, none of which could be clearly and predictably heard.

(footnote omitted).

139. 44 Stat. 1162 (1927).

140. *NBC*, 319 U.S. at 212.

141. *See, e.g.*, Laurence H. Winer, *The Signal Cable Sends—Part I: Why Can't Cable Be More Like Broadcasting?*, 46 MD. L. REV. 212, 221–22 (1987):

> The threat of electromagnetic interference requires regulation of the airwaves, just as the threat of auto accidents requires traffic control. But ultimately the question of interference is independent of whether or not spectrum space is scarce. Even if spectrum space were unlimited, interference problems would remain and require regulation, though only of a technical nature. Scarcity, on the other hand, might justify some resource-sharing regulation if logically related to the scarcity problem. By combining

two people try to transmit on the same frequency in the same direction at the same time, they will interfere with one another and thus block one another's messages. But the same thing is true for all rivalrous goods (which includes all tangible goods). If two people try to print on the same paper at the same time, or to talk into the same tin can tied to a string at the same time, or for that matter to sit in the same chair at the same time, they will interfere with one another.[142] Thus the fact that spectrum is subject to interference provides no information about spectrum that might distinguish it from anything else or justify any regime different from the one applicable to all other goods.[143]

This is not to suggest that interference is not a problem for spectrum; it is a quite significant problem. But the Supreme Court has never suggested—and there would be no basis for suggesting—that interference alone justifies government control over the spectrum. Concerns about interference might reasonably support some level of government action—in particular, to protect the right of one person or another to use a given resource (e.g., operate a printing press or sit in a certain chair). Scarcity, by contrast, raises the prospect of some sort of rationing regime. Ordinarily in market economies, the rationing is achieved through private auctions, but another possible response to short supply is for the government to take control. That is, scarcity without government intervention might lead to the resource going only to the highest bidders; a government that wanted to spread the resource around more fully might choose to respond to scarcity by taking over the distribution process.[144] In this way, scarcity might jus-

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> the notions of scarcity and interference, instead of considering them as distinct and separate rationales for different kinds of regulation, Justice Frankfurter [in *NBC*] inappropriately made the leap from necessary but limited technical regulation to a comprehensive scheme for government control of broadcasting.

(footnote omitted).

142. That is why we call these goods "rivalrous."

143. *See, e.g.*, Hazlett, *supra* note 20, at 138:

> The interference problem is [rightly understood to be] one of defining separate frequency 'properties'; it is logically unconnected to the issue of who is to harvest those frequencies. To confuse the *definition* of spectrum rights with the *assignment* of spectrum rights is to believe that, to keep intruders out of (private) backyards, the government must own (or allocate) all the houses. It is a public policy non sequitur . . . .

144. The apparent fear is that if spectrum is sold to the highest bidder, owners of the spectrum would cater to only a portion of the potential audience and/or to particular interests of its audience, and thus some segments of the population will find that their listening interests are ignored and that they are not served by the broadcasters. This danger is, of course, possible with respect to any scarce resource. If a resource is scarce, the high demand relative to the supply will drive up the price, leaving only the wealthy able to purchase it. Thus one might say that produc-

tify a much broader governmental regime than interference would. The problem of interference would not justify anything more than clearly demarcated rights and an enforcement function to back them up; once that is done, interference poses no more concerns. Scarcity, on the other hand, might justify such a demarcation and protection of rights plus governmental decisions about who gets those rights in the first place. And such a broader regime, of course, is the one that was created in the United States.

Is interference, then, irrelevant to spectrum regulation? No. Although the fact of interference does not provide any distinguishing data, the frequency with which such interference occurs can help to indicate how scarce a resource is. Imagine, for example, that there was a small island so enshrouded by fog that explorers could not see its dimensions, and they wanted to know how capacious it was. They might drop individuals around the perimeter of the island and then ask them to walk inward. They could determine the size of the island by finding out when each person bumped into each of the others. The more interference they encountered in their first 1000 steps, the smaller the island would be. The Supreme Court's suggestion in *NBC* of the relevance of interference thus makes some sense, because the commonness of such interference helped to establish that the spectrum was scarce.[145]

In any event, with respect to government control of the spectrum, interference has been understood by the Court—and can only be understood—as an adjunct of scarcity. The extent of interference helps to establish the degree of scarcity, but it is the scarcity that justifies a government role that goes beyond demarcation of rights. Interference, by itself, has no particular significance (because it is universal), and the Court has never indicated otherwise. Scarcity has always been the focus, with interference helping to establish that scarcity existed.

The significance of the Court's reliance on scarcity is that government actions taken in response to that scarcity will be subject to more lenient review than are regulations of sources of speech that are not scarce. This is an instantiation of a broader point about regula-

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ers of diamonds or beluga caviar cater only to the wealthy, and that the poor have been driven out of those markets. But the idea with spectrum is that it is so important (because of its role in communication) that the failures of the market are particularly unpalatable, and communities are particularly poorly served.

145. *See supra* notes 138–40 and accompanying text.

tion: government regulation of a good designed to alleviate the harms created by the good's scarcity are more readily justifiable than similar regulation of a good that is not understood to be scarce. But what happens when the government regulation of a scarce good tends to constrict the supply? In those circumstances, one cannot say that the government's action responds to the harms created by scarcity. Far from alleviating scarcity, the government would be exacerbating it.

The logic of the scarcity rationale is that there are not enough opportunities for speakers to express themselves, and that the government has a role to play in ensuring that these limited opportunities be put to the most valuable uses for society. One might think that such highest-valued uses should be determined by individual stations transmitting as they see fit, but our representatives have decided to entrust the government with the obligation of putting the spectrum to its highest and best uses. The government may define society's welfare in a manner different from the way that particular individuals might define it, and thus it may emphasize some goods over others. It may even give special status to some categories of speech that it values highly.[146] But one form of action clearly would not be responsive to concerns about scarcity: decisions that would constrain the number of speakers on the spectrum. Scarcity is the problem that the government is supposed to overcome. Courts treat scarcity as unfortunate and regrettable, and the government's mission as one of minimizing its negative impacts. The scarcity rationale is not consistent with limiting the amount of spectrum that is licensed; to the contrary, scarcity undercuts any government action that imposes such a limit.

If the spectrum is so scarce that its paucity justifies government intervention, it must also place on the government some burden to avoid wasting it. The Court in *NBC* tied these points together. The Court stated that "[t]he facilities of radio are limited and therefore precious; they cannot be left to wasteful use without detriment to the public interest."[147] Indeed, this idea is enshrined in statutes and international agreements that respond to the perceived scarcity of the radio spectrum by committing the government to "the operation of the maximum practicable number of radio channels in those portions of

146. That is, after all, the point of the right of reply at issue in *Red Lion*. The reply was not going to replace silence; the reply would displace other programming that would have been aired in its stead. *See infra* note 299 and accompanying text.

147. NBC v. United States, 319 U.S. 190, 216 (1943).

the spectrum where harmful interference may occur,"[148] and to the minimization of waste of the spectrum.[149]

When the government takes actions that end up enhancing, rather than minimizing, the problems that gave rise to government regulation in the first place, the entire justification for lenient review of government regulation is subverted. If scarcity is a problem that justifies a government response, the one sort of response that it clearly does not justify is one that would diminish the number of stations that transmit communications. Insofar as scarcity exists, it should create some presumption against government action that would produce fewer stations transmitting over the airwaves.

B. Other Rationales

The government could seek to avoid this problem by jettisoning the scarcity rationale. But the cure might be worse than the disease from the government's perspective, because scarcity is the prevailing justification for regulation of the spectrum in the first place.[150] Scarcity is the doctrine on which the Supreme Court has relied in allowing government control over spectrum that it would never allow over print. Abandoning the scarcity justification casts doubt on the entire regime of government regulation of spectrum. And the problem for the current regulatory regime is that jettisoning the scarcity rationale does not help to justify the status quo. The question from Part II of this Article was how to justify treating print differently from spectrum, and the proffered answer was scarcity. If scarcity is junked as a rationale, one must find something to replace it that would justify not

148. International Telecommunication Convention, Oct. 25, 1973, art. 10(3)(c), 28 U.S.T. 2495 (entered into force with respect to the United States on Apr. 7, 1976).

149. *See* Article 33 of the Constitution of the International Telecommunication Union, June 30, 1989, *reprinted in* INTERNATIONAL TELECOMMUNICATION UNION, FINAL ACTS OF THE PLENIPOTENTIARY CONFERENCE 10–11, 13–15, 30 (1990) ("Members shall bear in mind that radio frequencies . . . are limited natural resources and that they must be used rationally, efficiently and economically."); *see also* 47 U.S.C. § 309(j)(3)(D) (1994) (articulating as a central goal of the assignment process the "efficient and intensive use of the electromagnetic spectrum"); 47 U.S.C. § 922(4) (1994) (requiring governmental actions "necessary to promote the efficient use of the spectrum"); Martin A. Rothblatt, *Satellite Communication and Spectrum Allocation*, 76 AM. J. INT'L L. 56, 57–58 (1982) ("International regulation of orbit/spectrum is based upon application of the principle of maximum channel dispersion to the resource development technology of geostationary satellite communications. This principle requires the objective of international orbit/spectrum resource development law to be to maximize the availability of satellite communications pathways . . . .").

150. As I noted above, interference without scarcity would not justify government control over the spectrum. *See supra* notes 141–45 and accompanying text.

only wasting spectrum but also government control of the spectrum in the first place, while not applying to print. Thus, when the government keeps a slice of spectrum idle and is challenged by a failed applicant for that slice, defenders of the status quo would be faced with a dilemma: either scarcity still existed, in which case it would seem incumbent upon the government to allow on the air stations that did not create unacceptable interference, or scarcity did not exist, in which case the central basis for regulating spectrum differently from print would have evaporated.

This might seem overstated; aren't there other bases upon which the government could justify distinguishing spectrum from print, and controlling the former (including keeping some of it idle)? The Supreme Court has, in fact, articulated a different justification for one particular form of broadcast regulation, and that justification in no way relied on scarcity: in *FCC v. Pacifica Foundation*,[151] the Court upheld regulations limiting the broadcasting of indecency, based on its conclusion that broadcasting was uniquely pervasive and accessible to children.[152] But the Court has never applied the pervasiveness and accessibility rationales in the context of government decisions about which, and how many, broadcasters to allow to transmit. Indeed, the Court has never applied pervasiveness and accessibility outside the context of limiting the broadcasting of indecency—and it is hard to see how it could. The pervasiveness and accessibility of a medium may be relevant to measures designed to shield people from undesirable content, but that is a matter of controlling licensees. Shaping speakers' messages, in particular blocking negative messages, is responsive to concerns about those speakers' pervasiveness; keeping channels of communication unused is not.[153] The fact that broadcasting is pervasive and accessible provides no support for government control of the spectrum—much less deciding how many licenses will be assigned.[154]

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151. 438 U.S. 726 (1978).

152. *Id.* at 748–50.

153. This is not to say that content regulation is or should be constitutional. My point is merely that a concern about pervasiveness and accessibility is directly served by content-based limits on speakers, but has no such connection to the antecedent decision to close channels of communication.

154. In fact, pervasiveness and accessibility arguably cut against limits on the users of spectrum: if broadcasting really is that powerful, it would seem an inversion of the First Amendment to allow the government to control it to the extent of keeping it unused.

Some defenders of government regulation of spectrum have relied not on scarcity (or pervasiveness or accessibility), but instead on arguments about the role of communications in a republic.[155] The problem with those arguments for the task at hand is that we are trying to put forward a justification for distinguishing spectrum from print, and for the government controlling the former but not the latter. As these commentators readily admit, however, their arguments apply equally to communications via spectrum and print; they do not contend that broadcasting should be treated differently from newspapers. That is, the main defenders of government control of the spectrum acknowledge that the distinctions between broadcast and print do not support a difference in the protection afforded them, and they argue that both broadcast and print should be subject to government regulation.[156] Thus, they would allow government regulation of spectrum without relying on the scarcity rationale, but only because they envision the abandonment of the cases that subject print regulations to rigorous scrutiny. Such a harmonizing of the constitutional status of print and spectrum is probably a good idea. Many commentators have called for treating spectrum and print the same way—some

155. To oversimplify, these commentators have argued against leaving communications to market forces, on the grounds that communications help to define people both as individuals and as a society and that markets are flawed (they rely on preexisting wealth structures and give too much power to some voices and some views). In light of the importance of communications and the problems with markets, these commentators have supported spectrum regulations designed to increase the diversity and number of voices on the airwaves. *See* OWEN M. FISS, THE IRONY OF FREE SPEECH 52–78 (1996) (arguing that the government should ensure robust public debate, rather than leaving decisions about who speaks to the market); FISS, LIBERALISM DIVIDED, *supra* note 8, at 10–17, 23, 43, 154–58 (arguing that media regulation is necessary because the market ensures only that the viewpoints of the wealthy will be heard); SUNSTEIN, *supra* note 8, at 49–50 (arguing that in a market system, the goal of presenting people with diverse views on public issues may be severely compromised); Fiss, *Why the State*, *supra* note 8, at 791 ("[L]eft to itself public debate will not be 'uninhibited, robust, and wide open,' but instead will be skewed by the forces that dominate society. The state should be allowed to intervene, and sometimes even required to do so . . . to correct for the market.") (quoting New York Times Co. v. Sullivan, 376 U.S. 254, 270 (1964)); C. Edwin Baker, *Giving the Audience What it Wants*, 58 OHIO ST. L.J. 311, 366–72 (1997) ("As a rule, governmental structural intervention [in media markets], when it occurs, has been beneficial."); Baker, *supra* note 8, at 104 ("[T]he government has the power to structure the media in a manner that the government thinks will promote the best communications environment.").

156. *See* SUNSTEIN, *supra* note 8, at 48–51, 92, 110 (rejecting the scarcity rationale as a distinction between broadcasting and print media, but contending that the need to insure access and diversity justify government regulation of both print and broadcast media); Barron, *supra* note 8, at 1666 (stating that the distinction between newspapers and broadcasting stations is dubious because access to both is limited); Baker, *supra* note 8, at 93–94, 127–28 (contending that content concerns justify structural regulation of all media, including newspapers and broadcasters).

would allow regulation of both, others would allow regulation of neither[157]—and their arguments have considerable force. But in this Article, I am addressing the question of how a claim that the government is wasting the spectrum should be treated under the prevailing regulatory scheme, in which print is understood to be protected from government control, and spectrum would be similarly protected but for some justification (the proffered one has been scarcity).

It is worth noting, though, that these commentators' theories of the First Amendment would (like the scarcity rationale) justify government control of the airwaves, but their theories would not justify—and indeed would seem to condemn—government waste of the spectrum.[158] According to their reasoning, a central First Amendment value is that individuals be exposed to a wide variety of perspectives (in the Supreme Court's words, to information from "diverse and antagonistic sources").[159] Their concerns about the speech marketplace arise from a fear that the market will not produce enough expressive output.[160] This reasoning would seem to create a presumption against government actions that unnecessarily constrict the number of speakers.[161] They might additionally support measures aimed at increasing the diversity of speakers, but increasing the number of speaking opportunities would seem to serve that goal as well. Given that their proposals for government regulation respond to their fears of too little speech, government measures that block additional speakers would seem to be highly suspect. The ability to fit more speakers on

157. *See supra* notes 7–8 and accompanying text.

158. *See supra* notes 112, 155–57 and accompanying text.

159. Associated Press v. United States, 326 U.S. 1, 20 (1945) (stating that the First Amendment "rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public").

160. *See* SUNSTEIN, *supra* note 8, at 21 (arguing for a "Madisonian" conception of the First Amendment and expressing concern that "if deregulated markets do not deal with public issues, or do so only superficially, the Madisonian aspiration has not been fulfilled"); Fiss, *Why the State?*, *supra* note 8, at 787–88 (enumerating the market restraints on the presentation of matters of public interest).

161. *See* SUNSTEIN, *supra* note 8, at 22 (arguing that it is important that "a significant part of the citizenry is actually exposed to diverse views about public issues"); Baker, *supra* note 8, at 80 ("Laws aimed at restricting either the press' expression or an individual's autonomously chosen expression should be, even if for different reasons, equally impermissible."); ALEXANDER MEIKLEJOHN, FREE SPEECH AND ITS RELATION TO SELF-GOVERNMENT 27 (1948) ("To be afraid of ideas, any idea, is to be unfit for self-government. Any such suppression of ideas about the common good, the First Amendment condemns with its absolute disapproval. The freedom of ideas shall not be abridged."); Meiklejohn, *supra* note 112, at 261 (emphasizing that government should promote policies to bring "every citizen into active and intelligent sharing in the government of his country").

the spectrum with no loss of existing speakers would be an imperative.

In fact, Yochai Benkler has argued for a reconceptualization of First Amendment doctrine that appears to include, as one of its elements, allowing users of noninterfering services to bring First Amendment challenges to their exclusion from the spectrum.[162] He argues that First Amendment values cast doubt on measures that limit the ability of individuals to communicate with one another via the spectrum.[163] One apparent aspect of this critique is that constraints on the use of services that do not interfere with existing users should be permitted.[164] Thus, although his arguments have a different focus from mine, he and I seem to be in agreement on the question at issue in this Article: What are the limits on the government's ability to constrain the use of spectrum beyond what interference would require? Professor Benkler, though, presents his own normative vision of the First Amendment, and places his proposal within his larger theoretical construct, rather than arguing that his vision describes the current state of the law.[165] The point of this Article, on the other hand, is that, under the law as currently developed, the government cannot prevent the introduction of noninterfering uses. Even if courts reject Professor Benkler's attempt at reorienting the First Amendment and instead stick to the law as it has been developed, those courts should nonetheless agree with him (and me) that, in most cases, the government violates the First Amendment when it blocks uses of the spectrum that do not create additional interference.

There are a few who argue that broadcasters should be treated differently from newspapers and who do not base that distinction on scarcity.[166] The main alternative they supply is based on the historical fact that, for many years, licenses were given to broadcasters.[167] The idea is that government regulation of broadcasters' activities is a quid pro quo for the broadcasters' receiving their licenses free of explicit monetary charge (the payment, in other words, would come in the

162. *See* Yochai Benkler, *Siren Songs and Amish Children: Autonomy, Information, and Law*, 76 N.Y.U. L. REV. 23, 41–57 (2001) (criticizing laws that decrease the number or variety of options for autonomous expression).

163. *Id*.

164. Benkler, *supra* note 38, at 34.

165. *Id*. at 34–41.

166. *See supra* note 10 and accompanying text.

167. Logan, *supra* note 10, at 1691.

form of obligations on the part of the broadcasters).[168] At the outset, I should note that my argument is not limited to broadcasting.[169] The more important point, however, is that the quid pro quo argument focuses on the claims that the government can make on broadcasters once it has given licenses to them. The question here is what justifies the government in keeping noninterfering services off the spectrum in the first place. The quid pro quo argument, if it has any weight, applies only in the context of obligations of the chosen licensees. It does not affect whether it is constitutional for the government to refuse to allocate to some potential licensees. At the level of deciding whether to allocate or not, all spectrum is equal, and there is as yet no "quid" for which a "quo" from a beneficiary might be appropriate, because there is no beneficiary.[170]

A different possibility bears mention: one might want to try to argue that the spectrum is public property, and thus subject to government control in ways that printing presses are not. That is, one might say that, whether scarce or not, the spectrum is property that the government effectively owns and thereby has the right to control.[171] The degree of control for First Amendment purposes would be governed by public forum analysis, which applies to government regulations of speech on public property.

This argument has not been widely embraced, and with good reason. Applying the "property" rubric to spectrum inappropriately reifies it. As I noted in Part II, spectrum has no independent existence.[172] Courts and commentators use the term "spectrum" as shorthand for the ability to transmit at a given frequency. As Glen Robinson put it,

> The "spectrum" is merely a way of describing the forms of electromagnetic radiation; it is not a thing but a force (or more precisely a "disturbance in the force," to employ Star Wars terminology). Neither the means of radiation—a radio transmitter—nor the medium of conduction—space—have ever been regarded as public prop-

168. *Id*.

169. *See infra* Part VI.A.

170. *See* SUNSTEIN, *supra* note 8, at 109 (arguing that "the fact that [the government] chooses to allocate licenses as it does, rather than through ordinary markets, ought not to give it power that it would not otherwise have"); Spitzer, *supra* note 7, at 991 ("The government property rationale also should fail because the government, limited by the first amendment and other constitutional provisions, cannot do 'anything' it likes with its resources.").

171. *See supra* note 1.

172. *See supra* notes 104–06 and accompanying text.

erty.[173]

The public property/forum argument presumes that spectrum is inherently government property; neither scarcity nor any other rationale is necessary to justify government control. (If scarcity or another rationale is necessary, then the arguments set out earlier in this Part apply.) This position seems untenable. Not only does this argument assume its conclusion—spectrum is public property because it is inherently public property—but it also provides no answer for the question of how one distinguishes spectrum from printing presses, or air. If spectrum is public property, then why not printing presses? For that matter, why couldn't the government contend that, just as spectrum is the medium through which encoded electronic communication passes, air is the medium through which nonencoded voices (e.g., in public rallies) pass, and both are public property over which the government can exercise control. The scarcity rationale gives an answer to this question, but the public property rationale does not.[174]

This is not to say that the government cannot claim control of the spectrum. The government has done so, and in making my arguments I assume that control. But the question is the basis of that control; and basing government control on government control is unsatisfactory, both because of its circularity and its failure to distinguish spectrum from forms of property that the government could not control. Government control is not a justification for government control, but a response to some other justification.[175]

As with the arguments based on the role of communications in American society, one could argue that the approach to all forms of communication should involve government control. That is, one could attack a baseline of private control of the means of communication as prejudicing the analysis away from government control, and argue instead for a baseline of government control.[176] One might argue that one has to choose a baseline either way, and that the choice of government control as the starting point is as defensible as a choice of private control. The problem with this approach, for purposes of this

173. Robinson, *supra* note 137, at 912.

174. THOMAS G. KRATTENMAKER & LUCAS A. POWE, JR., REGULATING BROADCAST PROGRAMMING 225–29 (1994).

175. Logan, *supra* note 10, at 1715–16.

176. *See* Robert L. Hale, *Coercion and Distribution in a Supposedly Non-Coercive State*, 38 POL. SCI. Q. 470, 478–89 (1923) (arguing that there is no natural baseline for private versus public realms, so a "liberty" could just as easily be seen as an interference with others' rights).

Article, is that I am exploring the implications of the current regulatory scheme, and that scheme treats private control as the baseline for all forms of communication (with the explanation for government control of the spectrum revolving around scarcity).

Additional ammunition for the argument against a public forum approach to the spectrum is the awkwardness of the fit in terms of doctrine. The following seems an odd description of any kind of public forum: a right that can be licensed to private parties for readily renewable licenses, which licenses the government often sells to the highest bidder;[177] and those licensees are not public fora, or common carriers, or otherwise obliged by virtue of the Constitution to open themselves up to any speaker whose messages the licensees do not wish to transmit.[178] *Red Lion* held that imposing obligations on licensees is not forbidden by the First Amendment, but that is quite different from a claim that a station violates the First Amendment by refusing to carry speech; and that latter claim is exactly what is at issue in public forum cases.[179]

Even if public forum analysis did apply to the spectrum, it would not support the government's refusal to allocate spectrum to services.

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177. There is some dispute over whether the government can seek *any* funds from potential users of public fora, limited public fora, or even nonpublic fora. *See* David Goldberger, *A Reconsideration of* Cox v. New Hampshire*: Can Demonstrators Be Required to Pay the Costs of Using America's Public Forums?*, 62 TEX. L. REV. 403, 405 (1983) (considering "whether the approach of the Court in *Cox v. New Hampshire* and related cases, which seemingly approves governmental charges that are imposed to recoup costs associated with demonstrations, is consistent with the first amendment policies and principles articulated in modern public forum cases"). But insofar as the government can receive money in return for access to such fora, the government would not be allowed to earn a profit; the government would be limited to recouping its administrative costs. Cox v. New Hampshire, 312 U.S. 569, 577 (1941); Sentinel Communications Co. v. Watts, 936 F.2d 1189, 1205 (11th Cir. 1991).

178. *See* Columbia Broad. Sys. v. Democratic Nat'l Comm., 412 U.S. 94, 107–09 (1973) (concluding that a licensee is neither a common carrier nor a public forum).

179. *See* Ark. Educ. Television Comm'n v. Forbes, 523 U.S. 666, 673 (1998) ("In the case of television broadcasting, however, broad rights of access for outside speakers would be antithetical, as a general rule, to the discretion that stations and their editorial staff must exercise to fulfill their journalistic purpose and statutory obligations."); *id.* at 674–75:

> Claims of access under our public forum precedents could obstruct the legitimate purposes of television broadcasters. Were the doctrine given sweeping application in this context, courts "would be required to oversee far more of the day-to-day operations of broadcasters' conduct, deciding such questions as whether a particular individual or group has had sufficient opportunity to present its viewpoint and whether a particular viewpoint has already been sufficiently aired." "The result would be a further erosion of the journalistic discretion of broadcasters," transferring "control over the treatment of public issues from the licensees who are accountable for broadcast performance to private individuals" who bring suit under our forum precedents.

(citation omitted) (quoting *Columbia Broad. Sys.*, 412 U.S. at 127, 124).

On the contrary, public forum analysis would seem to undercut the government's position. The problem for the government, under a public forum analysis, is that spectrum is used almost exclusively for communications.[180] This is important because a central question with respect to public property—whether traditional public forum, limited public forum (which spectrum would presumably be), or nonpublic forum—is the extent to which the government can accommodate other, competing interests in its treatment of that forum. As the Court noted in *Grayned v. City of Rockford*,[181] "[t]he crucial question is whether the manner of expression is basically incompatible with the normal activity of a particular place at a particular time."[182] In public parks (classic public fora), the question might be whether the government's interest in preventing crime justifies restrictions on speech. Or, in prisons (nonpublic fora), courts would consider what role there is for communication, given that the predominant purpose of the prison is incarceration and speech is at best peripheral to that purpose. By contrast, the central use of spectrum is communication; the only "normal activity" on the spectrum is transmitting information. There is no other purpose that the government could invoke as justifying a limit on communication via spectrum, because there are no other purposes. So spectrum is not limited in the sense that there are countervailing uses that call for a balancing of uses by the government. There is no balance, because there are no other uses. To put the point in doctrinal terms, the government will not be able to offer a justification of the form "we will not allow your proposed use of the spectrum because we are using it for a different purpose" when the spectrum is unused. When the spectrum lies fallow, it is not being used for any purpose. Recall the point made earlier about idle spectrum: no one basks in the warmth of its glow, or gains utility from its preservation for another day. It has no beauty, because it is just the right to transmit on a particular frequency at a particular time. And there is no issue of its preservation, because its use today has no impact on its use tomorrow.

So if public forum analysis did apply, it would seem to undermine a governmental decision to refuse to allocate spectrum. When it is

180. There are a few uses of spectrum that one might exclude from the category of communications (like radio astronomy and the radiation of some microwaves), but these occupy an extremely small percentage of the spectrum and constitute an extremely small percentage of the uses.

181. 408 U.S. 104 (1972).

182. *Id.* at 116.

choosing among licensees, the government has to make a choice among competing communicators. But when it is choosing whether to license or not, it is choosing between a use and no use. There are no other potential uses of spectrum, so there are no tradeoffs.

IV. DETERMINING THE LEVEL OF SCRUTINY

A. The Inapplicability of NBC *and* Red Lion *to Cases Alleging Government Wasting of the Spectrum*

This discussion might seem interesting but foreclosed by *NBC* and *Red Lion*. Haven't those cases effectively ruled that all aspects of spectrum regulation are subject to some form of lenient scrutiny, akin to rational basis review?

The short answer is no. At the outset, it bears noting that neither opinion ever stated that it was applying rational basis review, or anything close to it.[183] And, at least in the case of *Red Lion*, its care in parsing the strength of the government's justifications suggests that this was more than mere rational basis review. (*NBC* spent less time formally discussing the First Amendment claim, but that was in substantial part because it had spent so many pages prior to that formal discussion laying out the problem of scarcity.) After all, if the review was merely for a rational basis, the Court in *Red Lion* need not have long tarried with the subtleties of the government's argument; just about any justification would suffice, so there would be no need for any significant discussion. Indeed, when the Court did characterize the scrutiny applied under *Red Lion* (in a 1984 case, *FCC v. League of Women Voters*[184]), it used the language of intermediate scrutiny—treating *Red Lion* as looking to whether "the restriction is narrowly tailored to further a substantial governmental interest."[185]

More fundamentally, *NBC* and *Red Lion* did not address, and did not purport to address, all forms of spectrum (or even broadcast) regulation. *NBC* approved of a set of rules regulating broadcasters' business relationships (the chain broadcasting rules), and *Red Lion* approved regulation of broadcasters' programming (in the form of a right of reply). The most that can be said is that in the background of

183. Red Lion Broad. Co. v. FCC, 395 U.S. 367 (1969); NBC v. United States, 319 U.S. 190 (1943); *see also* Baker, *supra* note 8, at 58 n.7 (noting that *Red Lion* was "written without reference to tests or levels of scrutiny but rather directly evaluated the arguments").

184. 468 U.S. 364 (1984).

185. *Id.* at 380.

these cases was the larger question of whether the government could control the spectrum in the first place.[186] That larger question was, at least in *NBC*, in some senses on the table. But approval of government control of the spectrum does not imply approval of decisions that keep some of it unused. Indeed, nothing in either opinion suggests that a decision to keep spectrum off the market based on concerns other than interference would be consistent with the Court's holding. In fact, parts of each opinion suggest that such waste would be problematic. As I noted in Part III.A, *NBC* emphasized that "wasteful use" of the spectrum was to be avoided.[187] In *Red Lion*, the

186. In a few lower court cases, "pirate" broadcasters have argued that the government's failure to allow them to operate as low power broadcasters violates the Communications Act of 1934 and the First Amendment. Grid Radio v. FCC, 278 F.3d 1314, 1316 (D.C. Cir. 2002); United States v. Neset, 10 F. Supp. 2d 1113, 1114–15 (D.N.D. 1998), *aff'd on other grounds*, 235 F.3d 415 (8th Cir. 2000); United States v. Dunifer, 997 F. Supp. 1235, 1237–38 (N.D. Cal. 1998), *aff'd on other grounds*, 219 F.3d 1004 (9th Cir. 2000). These "pirates" simply began broadcasting in contravention of the existing FCC regulations, without petitioning the FCC for a rulemaking, applying for a license, or otherwise attempting to operate within the law. The FCC brought enforcement actions against a few of them, and in response they challenged the FCC's authority to push them off the spectrum.

In *Neset* and *Dunifer*, the district court did not reach the merits of the broadcasters' challenge, because in both cases the court found that the broadcaster lacked standing based on its failure to attempt to lawfully obtain a license (and in both cases the circuit court found that it lacked jurisdiction). *Neset*, 10 F. Supp. 2d at 1115–16; *Dunifer*, 997 F. Supp. at 1240. In *Grid Radio*, by contrast, the court did not flatly refuse to consider the broadcaster's challenge, but instead found that his status as a scofflaw significantly affected its treatment of his arguments. The court began its analysis of his constitutional and statutory challenge by stating that:

> Szoka [the broadcaster] could have petitioned for a rulemaking or applied for a waiver and, if the Commission denied his request, challenged that denial in the appropriate circuit court. That he did neither, choosing instead to operate without a license, makes it inappropriate for us to consider his challenge to the microbroadcasting ban absent "an undisputable indication . . ., either because of the reasoning of a Supreme Court decision or intervening legislation," that the microbroadcasting ban was unlawful or unconstitutional.

278 F.3d at 1321 (citations omitted) (quoting Tribune Co. v. FCC, 133 F.3d 61, 68 (D.C. Cir. 1998)). The court thus applied an unusually high barrier to Szoka's constitutional challenge. It is therefore unsurprising that the court found that Szoka's claims did not satisfy this high threshold, and did not even merit much discussion. Indeed, as the analysis in this Article suggests, if I were a judge applying this stringent test of indisputable unlawfulness I would conclude that the arguments marshaled in this Article would not satisfy it.

It does bear noting, though, that in its brief application of this high standard to Szoka's constitutional challenge, the court stated that "although the Supreme Court has 'obliquely suggested it might [one day] reconsider' the scarcity doctrine on which the microbroadcasting ban rests, judicial ambivalence falls far short of a 'clear manifestation that [a] rule . . . is [facially] illegal.'" *Id.* at 1322 (alteration in original) (quoting *Tribune*, 133 F.3d at 68). Insofar as the court was suggesting that the scarcity rationale supports measures that limit even noninterfering uses of the spectrum, the point of my Article is that it takes the wrong lesson from scarcity.

187. *See supra* note 147 and accompanying text.

discussion arose in its treatment of the First Amendment. The Court intimated that, in light of the dearth of entities that could transmit at any given time, the First Amendment obliged the government to ensure that different voices would be on the airwaves.[188] The Court has not picked up on this suggestion in *Red Lion* that the First Amendment requires the government to open up the airwaves,[189] but certainly its language provides no support for the proposition that its holding extends to government actions that have the effect of limiting the amount of spectrum that can be used.[190]

To conclude otherwise, one would have to find that scarcity creates rational basis review across the board, so that it does not matter if scarcity happens to cut against the government's position in this case. The idea would be that low-level scrutiny applies to all regulation of broadcasting, if not all uses of spectrum, because of scarcity. But that seems to separate a justification from what it justifies, valorizing the justification for its own sake. It would be bootstrapping of the most troubling sort for the government to parlay the lenient scrutiny that flows from the unfortunate fact of scarcity into a basis for limiting the number of voices on the spectrum.[191] In defending its limi-

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188. *Red Lion*, 395 U.S. at 390:

> It is the purpose of the First Amendment to preserve an uninhibited marketplace of ideas in which truth will ultimately prevail, rather than to countenance monopolization of that market, whether it be by the Government itself or a private licensee. . . . It is the right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and experiences which is crucial here. That right may not constitutionally be abridged either by Congress or by the FCC.

(citations omitted).

189. *See infra* note 282.

190. FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 801 (1978). In that case, the Court upheld regulations that barred the common ownership of a broadcaster and a newspaper in the same community (so the rule affected the ownership of broadcast stations without reducing the number of stations). In finding these regulations constitutional, the Court emphasized that "their purpose and effect is to promote free speech, not to restrict it." *Id.* at 801. Limitations on the use of spectrum, though, would restrict the amount of speech available.

191. Justice Stevens has put forward a somewhat similar analysis in the commercial speech context. In reviewing restrictions on commercial speech, Justice Stevens has suggested that the Court should not apply a lower level of scrutiny if the reasons for that lower scrutiny do not apply to the relevant speech restriction. *See* 44 Liquormart, Inc. v. Rhode Island, 517 U.S. 484, 501 (1996) (plurality opinion) (Stevens, J., joined by Kennedy and Ginsburg, JJ.):

> When a State regulates commercial messages to protect consumers from misleading, deceptive, or aggressive sales practices, or requires the disclosure of beneficial consumer information, the purpose of its regulation is consistent with the reasons for according constitutional protection to commercial speech and therefore justifies less than strict review. However, when a State entirely prohibits the dissemination of truthful, nonmisleading commercial messages for reasons unrelated to the preservation of a fair bargaining process, there is far less reason to depart from the rigorous review that the First Amendment generally demands.

tations on the usage of spectrum, the government should not be able to invoke the lenient review that itself is a product of a concern about scarcity.[192]

One way of thinking about this point is to consider the significance of an applicant's demonstration that its proposed use would cause *de minimis* additional interference. Such a showing would indicate that the spectrum is less scarce than the government supposes, and thereby would tend to weaken the scarcity argument; the smaller the problem posed by interference, the less scarce the spectrum is. The contention would be that more uses can be allowed on the spectrum than the government had previously thought possible, and thus scarcity is not as big a problem as had been assumed. When a frustrated applicant brings a case that undercuts the scarcity rationale, government reliance on scarcity as its justification for denying a license to that applicant assumes its conclusion. If a court engages in minimal scrutiny of the claim that the scarcity rationale does not support, and instead undermines, a government denial, it is putting the analytical cart before the horse. It would be akin to a court deciding at the outset to apply lenient review to a dispute as to whether a given government action infringed on fundamental rights and thus should not be subject to such review. In fact, it would not merely be akin to such a judicial move: it would be such a move.

Rubin v. Coors Brewing Co., 514 U.S. 476, 492–93 (1995) (Stevens, J., concurring):

> In my judgment the [relevant] prohibition is just as unacceptable in a commercial context as in any other because it is not supported by the rationales for treating commercial speech differently under the First Amendment: that is, the importance of avoiding deception and protecting the consumer from inaccurate or incomplete information in a realm in which the accuracy of speech is generally ascertainable by the speaker.

192. This point is all the clearer if one conceptualizes scarcity as constituting an important government interest rather than as giving rise to a lower level of scrutiny. *See supra* note 183 and accompanying text. That is, if one understands *Red Lion* and *NBC* as cases where scarcity was the harm to which the government could respond, but in which scarcity did not significantly alter the level of scrutiny, rather than as cases where scarcity created a markedly lower level of scrutiny, then measures that waste spectrum would obviously gain no benefit from the scarcity rationale and would thus be subject to ordinary First Amendment review (i.e., the review applicable where scarcity is not a factor). The point in the text is simply that, if scarcity is indeed understood to create a lower level of scrutiny (as most understand it), such scrutiny would not apply to all conceivable cases—including those where the government's action is diametrically opposed to the concern that gave rise to the lower scrutiny in the first place. Nothing in the cases suggests that scarcity lowers the level of scrutiny when the challenged action increases scarcity. Even if scarcity lowered the level of scrutiny for all cases in which the government does not constrict voices (but see the discussion immediately below in text), applying such scrutiny when the government does constrict voices would ignore, and conflict with, the basis upon which the scrutiny was lowered.

Still, a skeptic might persist, hasn't the Court done exactly that in the broadcasting context? That is, hasn't the Court said that scarcity is not only a justification for government action but also a basis for treating all aspects of broadcast regulation as subject to lenient scrutiny? Again, the answer is no. Perhaps the most notable counterexample is *FCC v. Pacifica Foundation*.[193] In that case, the Court confronted regulations of broadcast indecency. The plurality found that the standard of review was a fairly forgiving one, but what is striking is that its proffered reasons for that standard of review were that broadcast is "uniquely pervasive" and "uniquely accessible to children."[194] Nowhere in the opinion did the Court rely on scarcity as justifying a weaker level of review, even though—if the broad reading of *Red Lion* is correct—the Court could have simply stated in a sentence or two that scarcity justifies lenient scrutiny for all broadcast regulation and then applied that lenient scrutiny.[195] If scarcity really does create across-the-board lenient scrutiny for broadcast regulation, it seems strange that the Court did not bother to take this easy path—or even to mention scarcity or *Red Lion* as possible justifications. This absence is all the more striking given that the FCC, in its order penalizing Pacifica and in its brief to the Supreme Court in the subsequent case, relied in part on scarcity;[196] the Court, of course, did not. What this suggests is that the Court did not treat scarcity as creating lenient scrutiny for all broadcast regulation. In some cases, scarcity would not help to justify the government's position.[197] As a result, it would not be relevant as a justification, nor would it create a lower standard of scrutiny.[198] Scarcity was a nonfactor in keeping indecency

193. 438 U.S. 726 (1978).

194. *Id.* at 748–50.

195. *See id.* at 770 n.4 (Brennan, J., dissenting) ("The opinions of my brothers Powell and Stevens rightly refrain from relying on the notion of 'spectrum scarcity' to support their result.").

196. Citizen's Complaint Against Pacifica Found. Station WBAI (FM), 56 F.C.C.2d 94, ¶ 9 (1975); Brief for the Federal Communications Commission at 39–40, FCC v. Pacifica Found., 438 U.S. 726 (1978) (No. 77-528).

197. *See* Thomas G. Krattenmaker & Marjorie L. Esterow, *Censoring Indecent Cable Programs: The New Morality Meets the New Media*, 51 FORDHAM L. REV. 606, 621 (1983) ("[N]o scarcity rationale, well- or ill-considered, can logically justify reducing the amount of offbeat or unusual broadcast programming. Spectrum scarcity justifies, if anything, diversity of speech in the broadcast medium, not government censorship. Therefore, the scarcity rationale unsurprisingly provided no support for the *Pacifica* result.").

198. *See* Denver Area Educ. Telecomm. Consortium, Inc. v. FCC, 518 U.S. 727, 748 (1996) (plurality opinion) (noting that scarcity may be relevant to some forms of broadcast regulation,

off the airwaves, and it would be a nonfactor in keeping potential users off the spectrum.[199]

One might be tempted to respond that the Court's willingness to allow the government to choose licensees weakens my argument in this Article. After all, if the government can choose to dole out a license based on whatever considerations it deems appropriate, why can't it choose *not* to dole out a license for any reason it deems sufficient? At the outset, it bears noting that the government has not been given so free a hand to choose licensees. In *NBC*, in fact, the Court emphasized that there were meaningful limits on the FCC's discretion to choose among license applicants.[200] So there is some bite to the review. But the real answer is that the two types of actions—choosing licensees and choosing whether to license—are quite different from one another. As I have argued, scarcity cuts in opposite ways.

Scarcity is understood to justify the FCC's free rein in choosing among competing licensees. The idea is that the spectrum is so precious that it is appropriate for an agency to choose who will be the best steward of that valuable speaking opportunity. With respect to choosing whether to license spectrum in the first place, the scarcity rationale undercuts government restrictions on spectrum. This is not the question of which among various competing applicants should receive a license, but, instead, the antecedent question of whether the spectrum should be used at all. If the spectrum really is scarce, then it should be incumbent upon the agency to dole it out. The preciousness

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but that "it has little to do with a case that involves the effects of television viewing on children").

199. The Court may have been persuaded by the argument articulated in the opinion below (and quoted in Justice Brennan's dissent) that "although scarcity has justified *increasing* the diversity of speakers and speech, it has never been held to justify censorship." Pacifica Found. v. FCC, 556 F.2d 9, 29 (D.C. Cir. 1977) (Bazelon, C.J., concurring)); *see also Pacifica*, 438 U.S. at 770 n.4 (Brennan, J., dissenting) (quoting this statement).

In fact, there is a better argument that scarcity is relevant to keeping indecency off the spectrum than there is for the relevance of scarcity to keeping proposed uses off the spectrum: the government might be able to argue that eliminating indecency would make room for better programming. When a certain form of programming is prohibited, it is not replaced with dead air, but instead with other programming. If the government prohibited all low-value programming, its replacement would presumably be programming of higher value. Indecency prohibitions are thus akin to choices between spectrum applicants (i.e., choosing Applicant A over Applicant B), rather than the choice of whether or not to allocate spectrum in the first place (i.e., choosing to use spectrum or to keep it idle). And scarcity tends to support comparative decisions as between uses of the spectrum—the spectrum is so valuable that it should be used only by worthy broadcasters—but undercuts decisions not to use the spectrum in the first place. *See supra* notes 124–149; *infra* note 258 and accompanying text.

200. 319 U.S. 190, 216 (1943).

of the spectrum supports granting spectrum, and undercuts attempts at limiting it.[201]

B. The Applicability of Heightened Scrutiny

As this Article suggested at the outset, regulating the supply of frequencies, like regulating the supply of printing presses, is subject to heightened scrutiny unless there is some rationale for more lenient review. And, as the preceding sections have indicated, there is no rationale that supports both a special regime for spectrum and the government keeping frequencies idle. What this suggests is that, if a litigant puts forward evidence showing that it could use a set of frequencies that the government keeps off the market, a court should review the government's refusal to allocate that spectrum under some form of heightened scrutiny.

Because neither scarcity nor any other rationale would support the government's position, government nonlicensing of the spectrum would seem to be subject the same review that would be applied to government nonlicensing of printing presses in a government warehouse. The idea is that there is no rationale for lessening the First Amendment scrutiny of either. Whatever bases there might be for weakening the review applied to other forms of spectrum regulation, government measures denying frequencies would not come under them, and thus would be left subject to the same unleavened scrutiny that would apply to other kinds of regulation that are unaffected by the scarcity rationale—such as limits on the distribution of printing presses. That is, the unavailability of scarcity as a justification for re-

201. That is the end of the matter for my purposes, but it does prompt a query: insofar as selecting licensees is important, why is the judicial review of decisions to choose particular licensees as deferential as it is? One possible answer turns on the fact that lenient review need not indicate unimportance; rather, it might be understood to reflect, most obviously, a conclusion that judges are ill-equipped to second-guess the agency, for reasons of democratic legitimacy and experience. As to the former, the political accountability of the FCC—created by factors like the relatively short term of FCC commissioners, the fact that the FCC's budget is at the mercy of the appropriators, the fact that the Department of Justice has litigating authority in the Supreme Court, etc.—arguably gives it greater legitimacy than a court would have in making policy decisions about, for example, what constitutes programming in the public interest. This is a familiar point from administrative law, one that is reflected in doctrines of deference: when agencies make policy judgments, courts are deferential, on the rationale that such judgments are better placed in the hands of political actors than of judges. As to experience, the FCC's history of evaluating applicants might be seen as giving it an advantage in being able to predict which ones will follow through on their plans, which ones will provide the programming that is deemed to be in the public interest, etc.

fusals to allocate renders irrelevant the availability of scarcity as a justification for other spectrum regulation.

Some might think this goes too far. They might argue that *NBC* and *Red Lion* should still serve as guideposts, even if they do not control. In order to see the problem with this reasoning, one must look back to *Red Lion* and *NBC*. In neither case did the Court say that rational basis review, or any particular level of review, applied to the regulation at issue.[202] Both cases looked at the substance of the government's justifications for its actions without identifying exactly what kind of review the Court was applying in looking at those justifications. Significantly, when the opinions addressed the substantive basis for the regulations at issue, scarcity was a central justification. The level of scrutiny affected the level of justification required, but, whatever the level of scrutiny, the government was going to have to produce some justifications for its regulation. And those justifications themselves relied heavily on scarcity. Scarcity thus not only served to leaven the scrutiny involved (at least to some extent), but also was a centerpiece of the government interest that justified the particular regulation at issue. This undercuts the applicability of *NBC* and *Red Lion* to cases, like those involving unused spectrum, where scarcity is irrelevant (or, more precisely, is relevant as a support for the entrants' attack on the government's position). Not only is the standard of review in those cases inapposite, because the scarcity rationale is not helpful and thus does not lead to a leavening of the standard of review, but the substantive discussions of the justifications in *NBC* and *Red Lion* is also inapposite, because scarcity was a main justification for the government's action on the merits. When that element of scarcity is not present, the justification is missing and the cases are no longer terribly useful. The Court's analysis of the regulation, as well as the level of scrutiny that determines the analysis's rigor, revolve around a support beam that has vanished.

A skeptic might persist: Even if their lenient standard of review does not apply and the analysis is inapposite, shouldn't the review of alleged government wasting of spectrum be leavened a bit in light of the fact that other regulation of spectrum is subject to more lenient review? On this theory, the fact that scarcity justifies lenient review of other spectrum regulation means that an allegation of wasting of the spectrum is subject to somewhat less rigorous review than would be an allegation of wasting of printing presses.

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202. *See supra* note 183 and accompanying text.

The problem with this argument is that it seems to extend the scarcity rationale, and the cases that rely on it, in the sorts of ways I criticized in the previous section. To put the point differently, why should the legitimacy of government control of the spectrum affect the analysis of a claim of wasting, if the basis for that control cuts entirely against waste? The scarcity argument may have the opposite effect: perhaps judicial review of a lawsuit alleging that the government is wasting a scarce resource should be *more* rigorous than judicial review of a suit claiming that the government is wasting a resource that is not scarce.

One other argument might seem tempting: the analogy to printing presses is faulty, because wire substitutes for spectrum. The argument would be that, because of the availability of wire, spectrum regulation is akin to restricting one type of printing press while allowing another form of printing press to be used.

There are two possibilities here: either wire is a suitable substitute for spectrum, or it is not. If it is not a suitable substitute for spectrum (which means that spectrum has relevant qualities that wire lacks), then the argument founders. It would not be good enough for the government to restrict printing presses but to allow people to use inferior alternatives, and the same should be true of wire as an inferior alternative. If wire is a substitute for spectrum (meaning that it has all the properties of spectrum, and perhaps advantages of its own), then the argument succeeds in demonstrating that spectrum is not like printing presses in terms of uniqueness. This second position is in fact one taken by many commentators—namely, that wire is a substitute for spectrum, and a perfect substitute for those services that do not require mobility (such as television).[203] The problem is that, if wire is such a substitute, then spectrum is not scarce, and the edifice supporting government regulation of the spectrum has been eviscerated. Indeed, the arguments for treating wire as a substitute for spectrum have been put forward in the service of attacks on the scarcity rationale. There is no scarcity, so the argument goes, because the relevant communications channel is not spectrum alone but spectrum

203. *See, e.g.,* Hazlett, *supra* note 7, at 929:

> The ability to substitute wired frequencies for wireless spectrum space should be self-evident today, when consumers and businesses choose daily between the rival forms of communications transmissions—for example, when deciding whether to use a TV antenna or satellite dish versus a cable TV hook-up, or placing a telephone call via a landline versus a cellphone (or cordless phone).

plus wire.[204] So, again, defeat of the wasting claim also undercuts the prevailing rationale for government regulation of the spectrum.

Even assuming that a suit based on the wasting of printing presses should be subject to more rigorous review than a similar suit with respect to spectrum, heightened scrutiny would still seem appropriate in the spectrum context. The standard level of scrutiny applied to content-neutral restrictions on speech is articulated in *Turner Broadcasting System, Inc. v. FCC*.[205] In that case, the government had forcefully argued that the statutory provisions requiring cable systems to carry local broadcasters should be subject to lenient scrutiny.[206] The Court flatly rejected that position, stating that "laws that single out the press, or certain elements thereof, for special treatment 'pose a particular danger of abuse by the State,' and so are always subject to at least some degree of heightened First Amendment scrutiny."[207] The Court then went on to delineate that heightened scrutiny—requiring "important or substantial," rather than merely legitimate, government interests, and that those interests not burden substantially more speech than is necessary to further that interest.[208] As I noted in Part II.B, this heightened scrutiny has been applied with some rigor in both the Supreme Court and lower courts.[209]

As I also noted in Part II, the newspaper licensing cases suggest a higher hurdle. In *Minneapolis Star*, the Court stated that "we cannot countenance [taxation of newspapers] unless the State asserts a counterbalancing interest of compelling importance that it cannot achieve without differential taxation."[210] This is the language of strict scrutiny, not the intermediate scrutiny of *Turner*.

One can, of course, have First Amendment scrutiny that is less rigorous than that in *Turner*. The case involving spectrum that is cited

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204. *See id.* ("Stated bluntly, the *technical* possibility of creating additional frequency space via wires renders the physical scarcity doctrine meaningless.").

205. 512 U.S. 622 (1994).

206. *See id.* at 640 (discussing the government's argument that "the [challenged] provisions are nothing more than industry-specific antitrust legislation, and thus warrant rational-basis scrutiny").

207. *Id.* at 640–41 (quoting Ark. Writers' Project, Inc. v. Ragland, 481 U.S. 221, 228 (1987)); *see also id.* at 641 ("Because the must-carry provisions impose special obligations upon cable operators and special burdens upon cable programmers, some measure of heightened First Amendment scrutiny is demanded.").

208. *Id.* at 662 (quoting United States v. O'Brien, 391 U.S. 367, 377 (1968)).

209. *See supra* notes 98–99 and accompanying text.

210. 460 U.S. 575, 585 (1983).

as the central example of such review, in fact, is *Red Lion*.[211] So there are three possibilities: less rigorous review, as in *Red Lion*; intermediate scrutiny; and strict scrutiny. If a court applies the first of these, there is no sense in which it is taking account of the fact that the main rationale for such scrutiny is absent (and actually cuts the other way) in the case of keeping spectrum idle. To look at it a bit differently, if a court applies lenient review to the wasting of spectrum, then it is suggesting that scarcity has become sufficiently talismanic that its inapplicability does not matter. The obvious answer is one of the forms of more rigorous review. As I noted above, there is a fair argument that the review should be at least as high for cases involving wasted spectrum as for those involving wasted printing presses, and that the latter would be subject to strict scrutiny.[212] But, at a minimum, the appropriate level of review would seem to be intermediate scrutiny. Such review would reflect the inapplicability of scarcity (or any other rationale) as a basis for weakening the review.

This is, after all, the standard level of review applied to content-neutral regulations of speech-related activities. It is worth emphasizing *Turner*'s statement that "laws that single out the press, or certain elements thereof, for special treatment . . . are always subject to at least some degree of heightened First Amendment scrutiny."[213] This statement does not admit of any exceptions—"always" is a fairly clear term. But even if "always" does not mean "always," at a minimum *Turner*'s language would require a powerful justification for going below the basic standard of heightened scrutiny; and there appears to be no justification—powerful or otherwise—for leavening *Turner*'s standard here.

V. APPLYING INTERMEDIATE SCRUTINY TO THE WASTING OF SPECTRUM

Government actions that keep spectrum idle likely will not survive intermediate scrutiny absent nontrivial interference. Indeed, such actions probably could not survive any scrutiny that involves some form of meaningful review of the government's justifications of

211. As I noted above, it is not clear that *Red Lion* applied low-level review (whether rational basis or otherwise). *See supra* note 183 and accompanying text. But those who so construe *Red Lion* cite it as the prime example of constitutional review of government decisions regarding spectrum that is more lenient than the intermediate scrutiny of *Turner*.

212. *See supra* p. 62 and notes 92–96; 108–11 and accompanying text.

213. *Turner*, 512 U.S. at 640–41.

its actions. So long as a court imposes a hurdle higher than minimal rationality—and even *Red Lion* and *NBC* do that—declining to allow services that do not noticeably increase interference with existing services would probably fail the test.

In brief, the constitutional analysis runs as follows. First, interference will generally be the only harm that constitutes an important or substantial government interest in denying someone use of the spectrum. Second, as to interference, some new services will cause only *de minimis* interference or will cause more significant interference that can easily be remediated and therefore avoided. Under such circumstances, there would not seem to be a sufficient government interest in denying the new use (or one might say that the availability of remediation is an alternative that demonstrates a lack of tailoring).

A. The Absence of Sufficient Government Interests Beyond Interference

The first question is what government interests will be "important or substantial," and thus satisfy the first part of the intermediate scrutiny inquiry. In most cases, there will be only one such government interest in preventing usage of frequencies: interference. Other interests generally will not meet this threshold. This flows from a key feature of wireless transmissions—namely that, unless they interfere, their use imposes no costs on the government or the people. There are no streets that are torn up, no rights of way that are affected, and no public easements that get occupied. This stands in sharp contrast to cable television or wireline telephony. In fact, the contrast goes even deeper. Even in situations where an area has no streets, no utility poles, no rights of way, etc., there can be a cost to stringing wires in the form of a damaged vista. That is, people may gain utility from an unspoiled view, and the knowledge that a pristine area remains so. Nonutilization of land, in other words, can be a valued use. But it is hard to see how the government could have a sufficient interest in some frequencies being unused. Spectrum is remarkably resilient. Broadcasters can transmit as much dreck as they want today and it will still be there tomorrow, unchanged and ready for good programming. No matter how intensively or improperly anyone uses it, spectrum stays the same. And no one can possibly enjoy the beauty of its nonuse, because there is nothing to behold. The use of spectrum is simply the transmission along a certain frequency, and the mere fact of such transmission imposes no greater costs than does my enemies' private conversation, which also stimulates the air around their

transmission but miraculously makes no imprint on the world, spoils no visual image, and leaves the air ready for more words.[214]

One way to highlight this point is to compare the government's refusal to allocate spectrum with its refusal to allow media companies to use some land areas through zoning. At first blush, the analogy might seem powerful. Media companies need land, and certainly the government could not zone the entire United States such that no media companies could exist, but the government is not estopped from enacting zoning regulations that prevent media companies from locating in *some* areas (e.g., residential ones). That is, even if the government owns the land, or controls it through zoning, it is not obligated to open up all the land for media companies. It can leave the land unused, or zone it for uses incompatible with those of the media.

This analogy fails, though, for two reasons. First, land is suitable for a wide variety of uses, and the government must make tradeoffs between competing uses, whereas spectrum is suitable only for sending and receiving radio waves. There are many competing nonmedia uses of land, but all uses of spectrum involve transmission, and overwhelmingly what is transmitted is information.[215] This flows from the way spectrum is defined, namely, as the right to transmit at a given frequency at a given time. In this way, land use decisions are analogous to choices among various uses of the spectrum (e.g., broadcast versus mobile telephony), not to the decision whether or not to allow any use of the spectrum. Second, as I noted above, letting land lie fallow is still a use of the land, because it may serve as a vista, or as a

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214. One could try to say that wireless communication imposes a cost on the rest of society if it transmits information that hurts people or that people otherwise do not like, but of course that does not distinguish spectrum in any way, as that is true of all forms of communication (and, indeed, is inherent in communication).

215. In this regard, *Lakewood v. Plain Dealer Publishing Co.,* 486 U.S. 750 (1988), is instructive. In explaining why regulating the location of newsracks raised a much more serious First Amendment issue than regulating building construction or the selling of soft drinks, the Court stated,

> laws of general application that are not aimed at conduct commonly associated with expression and do not permit licensing determinations to be made on the basis of ongoing expression or the words about to be spoken, carry with them little danger of censorship. For example, a law requiring building permits is rarely effective as a means of censorship. . . .
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> . . . Newspapers are in the business of expression, while soda vendors are in the business of selling soft drinks. Even if the soda vendor engages in speech, that speech is not related to the soda; therefore preventing it from installing its machines may penalize unrelated speech, but will not directly prevent that speech from occurring.

Id. at 760–61.

replenishment of an aquifer, or some other useful purpose.[216] The government might choose to set aside some land as a park or preserve on which buildings will never be built, but such a decision makes no sense in the context of spectrum. No one gets any utility from spectrum lying fallow (except for incumbents, who see the supply of competition constricted).[217]

So, as I suggested at the outset, the better analogy is not to real estate, which has many uses (including as fallow land), but to printing presses. There is no value in an idle printing press. If the licensing scheme discussed in Part II were created for printing presses, and an applicant who failed to obtain one of the licensed presses inquired about the unused presses (i.e., the presses that the government chose not to license), it would be insufficient for the government to respond that it simply had no interest in distributing them, or that there were enough newspapers and no more were needed. Instead, the government must have a good reason for failing to distribute all of them. It would be sufficient for the government to tell an applicant that someone else had obtained the license. In that case, the frustrated applicant's use would interfere with that of an incumbent. But, as with spectrum, absent such interference there would appear to be no valid basis for restricting the licenses.

This is not to suggest that there are no costs to using spectrum other than interference, but rather that those costs will rarely, if ever, constitute a sufficiently great government interest.[218] One cost of licensing spectrum, at least for some people, involves the greater transmissions that such licensing will afford. If you believe that television is a "vast wasteland"[219] filled with programming that harms people, you might well want the government to allow less programming, rather than more. This is not a nonsensical position. There is research, for instance, that correlates the viewing of televised violence with

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216. *See supra* first paragraph of Part V.A.

217. As one commentator put it, "[w]e should never forget that any transmission capacity not used is wasted forever, like water over the dam. And, there has been water pouring here for many, many years, even during an endless spectrum drought." Baran, *supra* note 70.

218. That is, an important or substantial interest, or a compelling interest if strict scrutiny applies. *See supra* notes 89–101 and accompanying text.

219. *See* Newton N. Minow, Speech to the National Association of Broadcasters (May 9, 1961) (decrying the poor quality of most television programming and urging broadcasters to do better), *in* NEWTON N. MINOW & CRAIG L. LAMAY, ABANDONED IN THE WASTELAND 188 (1995).

subsequent antisocial behavior.[220] The problem with this position is that it is squarely aimed at restricting communication for the sake of restricting communication. The underlying complaint is that too much is already being transmitted, and we do not want any more added to the world. This complaint may have some traction in a world without the First Amendment, but it is difficult to see how it can constitute a substantial, or even legitimate, government interest in a world where freedom of speech is enshrined in the Constitution. After all, this is not even a case of saying that American society has enough of one form of speech and thus needs to devote that spectrum to other purposes. There are no other purposes for the spectrum, so the argument is that the government should restrict speech simply for the sake of doing so. If that is a sufficient government interest, then the hurdle of a government interest will be met every time, and thus is a chimerical hurdle.[221]

Another possible cost is more serious: any spectrum that the government licenses is spectrum that it does not have in reserve for future uses.[222] One tempting form of this argument raises the possibil-

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220. *See* KRATTENMAKER & POWE, *supra* note 174, at 120–34 (discussing the history of the violence hypothesis and its supporting research); Harry T. Edwards & Mitchell N. Berman, *Regulating Violence on Television*, 89 NW. U. L. REV. 1487, 1536–51 (1995) (reviewing the violence hypothesis).

Interestingly, researchers have found that the few studies on the effect of exposure to indecent sexual material have shown no effect or harm to children under the age of eighteen. *See* Edward Donnerstein et al., *On the Regulation of Broadcast Indecency to Protect Children*, 36 J. BROADCASTING & ELECTRONIC MEDIA 111, 115 (1992):

> [S]exual innuendo or veiled references to sex may have little impact on a younger child who is unlikely to understand the meanings of such references. In contrast, older children who are more likely to understand the references are also likely to have developed moral judgments that would mediate any effects.

See also Jeremy Harris Lipschultz, *Conceptual Problems of Broadcast Indecency Policy and Application*, COMM. & L., June 1992, at 27 ("No known social values can be shown which support the need to keep children away from indecent language.").

221. The same is true of another cost one might identify: government outlays. The government will have to spend some amount of money in processing the license—in evaluating the licensee's proposed transmission, in filling out the paperwork for the license, or other administrative costs. But if that is a sufficient government interest, it would be satisfied in every case. When the government allows a printing plant to be established, it must spend some money in evaluating the plan for the plant in terms of noise, pollution, etc. If it could deny licenses based simply on those administrative costs, then it could deny every license.

222. Note the tension between the government arguing that it needs to keep spectrum in reserve and arguing that there is no room on the spectrum for additional uses: if there is no such room, then there is no extra spectrum for the government to keep open for future use. Thus, insofar as the government responds to a potential user's request for spectrum by saying that there is no idle spectrum, the government undercuts the claim that it has an interest in keeping that spectrum available for other uses in the future.

ity that the government allows a licensee to use a slice of spectrum and later wants to use that spectrum itself for government purposes. Its granting of the license would create a roadblock for its later use by the government, and thus an opportunity cost. But there is no roadblock, because insofar as spectrum licenses confer property rights,[223] the government could seize the spectrum license via eminent domain and pay for it.[224] One possible reply is that the cost of purchasing it from the licensee would constitute a significant government outlay.[225] But the government would lose money on this transaction only if it chose to give away the license in the first place. If the government sold the license initially, it would presumably merely repay the money that it received. Yes, the government could give the license *gratis* and thus find itself paying for the license without ever receiving any money for it, but that would be a result of the government's decision to give away the license to the first user. It is hard to see how the gov-

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223. Congress has proclaimed that it alone controls the spectrum and that private parties obtain licenses only. *See* 47 U.S.C. § 301 (1994):

> It is the purpose of this Act, among other things, to maintain the control of the United States over all the channels of radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license.

And section 304 of the same statute provides that

> [n]o station license shall be granted by the Commission until the applicant there for shall have waived any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise.

47 U.S.C. § 304; *see also* Ashbacker Radio Corp. v. FCC, 326 U.S. 327, 331–32 (1945) (holding that "[n]o licensee obtains any vested interest in any frequency," and that the FCC may revoke any station license pursuant to statutory procedures); FCC v. Sanders Bros. Radio Station, 309 U.S. 470, 475 (1940) (stating that "[t]he policy of the Act is clear that no person is to have anything in the nature of a property right as a result of the granting of a license").

224. *See* MATTHEW L. SPITZER, SEVEN DIRTY WORDS AND SIX OTHER STORIES: CONTROLLING THE CONTENT OF PRINT AND BROADCAST 22–24 (1986) ("The government could conceivably use eminent domain to recombine spectrum rights and thereby eliminate hold-out problems."). So even if incumbents did obtain ownership rights in spectrum, the government would always have available the ability seize that (or any other) property via eminent domain.

225. It might seem tempting to put forward a different reply—namely, that seizing spectrum from *A* in order to allocate it to *B* (more accurately, to a new service provided by *B*) would run afoul of the "public use" requirement of the Fifth Amendment, because it would really be a private use. The problem with this argument is that it flies in the face of *Hawaii Housing Authority v. Midkiff*, 467 U.S. 229 (1984). In that case, the Supreme Court upheld against a takings challenge legislation that seized property from *A* (lessors) and gave it to *B* (lessees). The Court ruled that a public use was not necessary as long as the legislature had a public purpose, and stated that any exercise of the eminent domain power that "is rationally related to a conceivable public purpose" would pass muster. *Id.* at 241; *see also supra* note 83.

ernment could persuasively argue that it has a substantial interest in holding a license off the market because otherwise it might foolishly give that license away and later want to get it back. Given the ease with which the government could avoid this problem (by selling the license), once again this interest seems so slight that it would render the requirement of a substantial government interest meaningless.

There is, however, a different formulation of the cost of granting a license: the problem might be not so much that the government will have to pay for the license to get it back, but rather that the recipient might become a sufficiently entrenched incumbent that the government can never get it back for another use. The idea is that, once a licensee gets the right to use a portion of spectrum, it has a stake in keeping that license and will use all its influence—influence enhanced by the earning power created by the license—to do so.[226] This concern certainly is not farfetched. Incumbents always have an interest in maintaining their allotments (and preventing anyone else from obtaining one). Indeed, it is the power of spectrum incumbents that has helped to create the unused spectrum in the first place—since incumbents never relish competition.[227]

This has been borne out in practice. On many occasions someone—the FCC, or a competing user, or a think tank—has proposed that spectrum currently allocated for one use instead be shifted to a different one. The response from the incumbents is usually unequivocal: "We see this as our spectrum, and we will fight you tooth and nail

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226. *See, e.g.*, ROGER C. NOLL & BRUCE M. OWEN, THE POLITICAL ECONOMY OF DEREGULATION: INTEREST GROUPS IN THE REGULATORY PROCESS 12 (1983) ("[R]egulation can create interests in the perpetuation of regulation even where none existed before. Thus, a rule once in place may have far stronger support than it originally commanded, even though the rule might impost greater costs than benefits on the public.").

227. This danger of entrenchment could be remedied if the spectrum were freely tradable. If I knew that I could get paid for my spectrum, I would have every reason to want to maximize the legally authorized uses of that spectrum. The problem here is that many of the users (particularly the government licensees) know that they will not receive any money if they allow other uses of their spectrum, so they lack this incentive.

To put the point differently, the fear of entrenched incumbents would have force only because the government had restricted the uses of the spectrum and declined to make licenses into freely tradable property. If a licensee could sell its spectrum and use it for any noninterfering purposes, it would have no reason to resist a new potential use for its frequencies. The addition of an additional authorized service on a given range of frequencies would enhance the value of that spectrum, and its availability would not mean that the licensee had to give up the spectrum; the licensee could keep the spectrum if it so chose. The fear of the power of incumbents arises only because the government has chosen to exercise much greater control over the spectrum. Loosening control is an obvious option, which suggests that the government's interest in keeping control would not be very strong.

to keep it that way." This is exactly what has happened recently, for example, in the attempts at making room for third generation wireless telephones (known as 3G). Those who had underutilized spectrum—most notable among them, government users—mightily resisted the suggestion that any of their spectrum be devoted to 3G services. Everyone argued that someone else's spectrum should be taken.[228]

The fact that incumbents so contend does not mean that they are always successful. On the contrary, their arguments often fail. The FCC has on many occasions pushed particular services off their spectrum, when it has concluded that a different service constitutes a better use.[229]

The real problem with the proposition that a fear of entrenchment justifies keeping spectrum off the market, however, is that the government's unwillingness to regain control of spectrum it has allocated is the source of the government's interest. The government would be saying it had little confidence that, once it had granted a license, it would have the stomach to seize it back. The government thus would be creating its own regulatory justification. Its interest would arise from its failure to stick to its principles of maximizing the value of the spectrum. It is difficult to see how the government's unwillingness to utilize the readily available mechanism for reclaiming the spectrum can constitute an important or substantial government interest. If that argument were persuasive, the requirement of an important or substantial government interest would be meaningless in any case involving potentially powerful incumbents and a scarce resource. The government could simply articulate its interest as its fear that it would not stand up to the incumbents once they had obtained some benefit from the government. Moreover, if the government were successful in making this argument, it would be hard to under-

228. *See, e.g.*, *Battle of the Airwaves*, THE ECONOMIST, July 29, 2000, at 57–58 (discussing how various licensees have managed to keep their spectrum from being devoted to 3G services).

229. *See, e.g.*, Reallocation of the 216–220 MHz, 1390–1395 MHz, 1427–1429 MHz, 1429–1432 MHz, 1432–1435 MHz, 1670–1675 MHz and 2385–2390 MHz Government Transfer Bands, 17 F.C.C.R. 368, ¶1 (2002) (allocating seven bands for nongovernment use in keeping with "articulated goals for efficient spectrum use"); Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, 8 F.C.C.R. 6589, ¶1 (1993) (adopting "a plan that will provide for the fair and equitable sharing of 2 GHz spectrum by new services and the existing fixed microwave services"); Advanced Television Systems and Their Impact upon the Existing Television Broadcast Services, 6 F.C.C.R. 7024, ¶¶ 30–31 (1991) (relocating low power television).

stand how it could ever justify licensing any spectrum.[230] After all, in any given case, there might be a better user just around the corner, one that would be forestalled if the government failed to reclaim spectrum from the incumbent to whom it had given the spectrum.[231]

A slightly different formulation of this argument about prior uses prejudicing later ones would focus not on entrenchment but instead on efficiency: the government might argue that, even if it was not afraid to reclaim spectrum, such seizing of the spectrum might impose

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230. This relates to the seeming analogy of the land preserve. Why isn't empty spectrum like a conservation easement designed to prevent land from being developed? The idea of such a preserve is that the land is perpetually protected from development, as keeping the land in its pristine state is a valued use. Here, by contrast, there is no value in fallow land, so there is no value in having a preserve. *See supra* note 214 and accompanying text. What if I change the analogy to that of a land bank that is held off the market for future development? The problem is that one can never know when one has found that perfect use. There will always be the possibility of a still better use in a few years' time. At any time *T*, there will be current uses that are attractive and conceivable future services that are even more attractive. The government will thus leave the spectrum empty, and wasted, at current time *T* in order to have it available at future time *T*. And, all the while, the government could have authorized a service while it waited for something better, knowing that it could remove that service from those frequencies as soon as the better service became available.

231. What about the possibility that incumbent entrenchment will coincide with users becoming accustomed to using particular devices that utilize that spectrum? After all, consumers can come to rely on particular services, and path dependence heightens this possibility. Does my argument about incumbents mean that a fear of harm to consumers is not an important or substantial government interest? The answer, as is discussed more fully below, is that harm to an existing service, whether or not consumers rely on it (and therefore *a fortiori* if consumers do rely), is an important or substantial government interest. *See infra* notes 262–67 and accompanying text. But adding noninterfering services on to the spectrum is fully consistent with protecting that interest. The whole point is that a noninterfering service does not harm existing services, and so can be added without harming those services or those who rely on them. One might well argue in favor of pushing some services off the spectrum, but that person would have to rely on arguments different from those put forward in this Article. The point here is simply that the government cannot deny access to the spectrum based on a fear that the new incumbent will become entrenched—even if such entrenchment includes having consumers rely on it.

This last sentence highlights an important distinction: the proposition that the government has an important or substantial interest in protecting consumers (and incumbents more generally) from harm is quite different from a notion that the government cannot, as a legal matter, move existing services off the spectrum (and thereby harm those who rely on them). If the latter were true, then one would not say that the government was unwilling to reclaim spectrum, but rather that it was actually unable to do so; and thus the government would have a strong claim to an important or substantial interest in failing to allocate any spectrum in the first place. The problem with this reasoning is simple: the government can reclaim spectrum. It is not legally disabled from doing so. As I noted above, the government has emphasized that licenses do not confer any permanent rights; and, even if they did, the government retains its powers of eminent domain. *See supra* notes 222–25 and accompanying text. Thus, the government cannot rely on the fear of legal entrenchment as creating an important or substantial interest in refusing to assign spectrum.

costs on the private parties that would be better avoided by not allocating the spectrum in the first place. The government might contend that, even if a new user understood the danger of the government reclaiming the spectrum, that user might nonetheless invest more than was warranted, with the result that when its spectrum was reclaimed it would have substantial stranded costs (i.e., costs specific to its use of those particular frequencies). The government, so the argument would run, would have an interest in preventing the losses resulting from such stranded costs, and thus would have an interest in refusing to allocate the spectrum in the first place.[232]

The government would be telling potential service providers that they might not make wise investing choices, even after hearing from the government about its level of interest in reclaiming that spectrum at some future point. The problem is that this paternalistic interest is used to cut off an option that new users would otherwise have. The government would be saying that it had an important or substantial interest in denying potential new providers the option of utilizing the spectrum, for fear that if they had the choice between spectrum and wire they would make the choice that would not maximize their own wealth. It is certainly possible that the government would know what was in the potential provider's interest more than the provider itself would, but the more widely accepted view is that those whose economic interests are at stake will do a better job of evaluating their own position. And, in any event, it is difficult to see how the government could have an important or substantial interest in imposing its vision of the provider's appropriate investment decision on the provider.

Might the efficiency problem, instead, be that the government reclaiming the spectrum would produce too little investment? That is, the government might articulate an interest in avoiding giving licensees the impression that it will seize existing spectrum, for fear that such an impression will lead providers to invest too little in their spectrum, thereby creating less value for themselves and society. The problem with this formulation is that it ignores whom the reclaiming would affect, and how. To review the bidding: the government would be claiming an interest in refusing to allow noninterfering new services on the spectrum for fear that, when it removed those services

232. If the existence of these stranded costs would induce the government to refrain from reclaiming the spectrum, then we are back to the entrenchment argument—and the problems with that argument—discussed above. *See supra* notes 226–31 and accompanying text.

from the spectrum, other service providers would become scared about their own status on the spectrum and thus would invest suboptimal amounts of money in their services. But there would be no reason for providers of services that the FCC has carefully chosen, through its ordinary processes of allocating spectrum to the highest and best use, to have any heightened concern about losing their spectrum based on the government having reclaimed spectrum from a noninterfering use that forced its way onto the spectrum by invoking the First Amendment arguments suggested in this Article. The government's successful removal of one of the latter groups of service providers—which by definition the government had never determined was the best use of any portion of spectrum, and which it would have kept off the spectrum if it had had the choice—would not send a signal that the government was looking to unsettle all existing uses; and, even if it did send that signal, the government could disclaim such an intent.[233] Government reclamation of spectrum in these circumstances would merely remind licensees chosen in the ordinary manner that the government could, in fact, seize spectrum; but those licensees would already know that. Indeed, those entities whom the FCC chose in its regular processes as providing the best service should be heartened by the government's willingness to reclaim spectrum from the services that utilized First Amendment arguments to gain access in the first place, as it would underscore the FCC's commitment to devote spectrum to what it determined to be the best service.

That still leaves the possibility that other providers who force their way onto the spectrum by marshaling the First Amendment arguments addressed in this Article would be induced to invest too little. That is, even if those licensees blessed by the FCC had nothing to fear from the government seizing spectrum back from those it was

233. This relates to another possible argument. Might the government be able to argue that it had an important or substantial interest in refusing to allocate spectrum, because otherwise incumbents would not know whether the government wanted to put them on the spectrum or instead was compelled to give them space on the spectrum (using the arguments in this Article)? No. Insofar as the government feared the consequences of incumbents' uncertainty about their status as desired occupants, the government could easily avoid the confusion by clarifying the basis on which it allowed services on the spectrum. The government could indicate whether it was allowing a given service on the spectrum only because it was obliged to by the First Amendment, or whether it was choosing to allow the service regardless of any First Amendment obligations. The government's fear of the consequences of incumbents' uncertainty about their status would not seem to constitute an important or substantial interest, because the government could avoid the uncertainty in the first place.

compelled to allow on the airwaves in the first place, providers similarly situated to those whose spectrum was seized would have reason to fear such reclamation; and thus they might invest a suboptimal amount in their own services. But this argument does not work, because the alternative proposed by the government is no investment and no noninterfering service. If the fear is that a less than ideal amount will be invested, it is a nonsensical response to that fear to ensure that nothing at all will be invested. To put the point differently, recall that I am talking about spectrum that is currently lying fallow. Unless society places a negative value on additional communications (which would be inconsistent with the First Amendment[234]), *some* additional use of that spectrum is better than none at all. By hypothesis, the government is willing to reclaim the spectrum once a better use becomes available, so I am talking about the intervening period when the spectrum would otherwise be idle. Given that spectrum is not a wasting resource, it is preferable to have some new service on that spectrum, even at a lower level of investment than might be optimal, to no new service at all. It seems impossible, then, for the government to assert an important or substantial interest in keeping noninterfering services off the spectrum out of fear that letting them on would lead them to produce fewer communications than would be ideal.

A third possible cost is the burden on incumbents from having more competition. The government might argue that opening up the spectrum to more uses will destabilize existing companies' services. The possibility is real. Presumably, the reason an entrant would devote the time, money, and energy to creating a new spectrum service is that this entrant believed it could gain new customers, perhaps at the expense of existing companies. Part of the whole point of allowing new speakers on to any medium is that they add to the debate. In doing so, they may of course tend to weaken the competitive position of the incumbents.

That a fear is well founded, however, does not make it a sufficient basis for government action to counteract it. First, protecting competitors will not be sufficient. As has been frequently stated in the context of antitrust law, the goal is to protect competition, not competitors.[235] Second, even as to competition, destabilization will not

234. *See supra* note 112; *infra* note 241 and accompanying text.

235. *See, e.g.*, Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977) ("The antitrust laws . . . were enacted for 'the protection of *competition*, not *competitors*.'" (quoting Brown Shoe Co. v. United States, 370 U.S. 294, 320 (1962))).

create a sufficient government interest. Absent a serious danger of widespread bankruptcies, concerns about competition will not suffice. These principles are reflected in case law, most notably in *Turner I*.[236] In that case, the government had sought to justify provisions requiring that cable operators carry local broadcasters by invoking concerns about the competitive difficulties that broadcasters would face if they were not carried on cable systems.[237] *Turner* found that, in order to pass constitutional muster, the harms to broadcasting had to be more specific and more powerful.[238] The plurality stated that, "in applying *O'Brien* [i.e., intermediate] scrutiny we must ask first whether the Government has adequately shown that the economic health of local broadcasting is in genuine jeopardy and in need of the protections afforded by must-carry."[239] The Court further indicated the seriousness of the hurdle in emphasizing that "the parties have not presented any evidence that local broadcast stations have fallen into bankruptcy, turned in their broadcast licenses, curtailed their broadcast operations, or suffered a serious reduction in operating revenues as a result of their being dropped from, or otherwise disadvantaged by, cable systems."[240] Accordingly, competitive pressures on incumbents will not suffice. The government must be able to show genuine jeopardy

236. Turner Broad. Sys. v. FCC, 512 U.S. 622 (1994).

237. *See id.* at 662 (noting that the government presented three specific interests that justified the must-carry regime: "(1) preserving the benefits of free, over-the-air local broadcast television, (2) promoting the widespread dissemination of information from a multiplicity of sources, and (3) promoting fair competition in the market for television programming").

238. *See id.* at 664 ("[The government] must demonstrate that the recited harms are real, not merely conjectural, and that the regulation will in fact alleviate these harms in a direct and material way.").

239. *Id.* at 664–65.

240. *Id.* at 667. Interestingly, the Court had a similar thrust in a major case from 1940 that addressed a purely statutory challenge to the denial of a license. In that case, *FCC v. Sanders Bros. Radio Station*, 309 U.S. 470 (1940), the Court concluded that, under the Communications Act, protecting competitors ordinarily will not constitute grounds for denying a license to a potential entrant. *See id.* at 475 ("Congress intended to leave competition in the business of broadcasting where it found it, to permit a licensee who was not interfering electrically with other broadcasters to survive or succumb according to his ability to make his programs attractive to the public."). *Sanders Bros.* did suggest that an entrant could be denied a license if that would bankrupt both the entrant and the incumbent, and thus it may have required a bit less than *Turner* does, but the Court in *Sanders Bros.* immediately added that its concerns about bankruptcy "are distinct from the consideration that, if a license be granted, competition between the licensee and any other existing station may cause economic loss to the latter." *Id.* at 476. No First Amendment arguments were raised in the briefs or in the opinion, so the case does not directly relate to the question of what the First Amendment requires. But it is noteworthy that, half a century before *Turner*, the Court concluded that economic loss to incumbents was not a sufficient basis for keeping potential entrants off the spectrum.

to the economic health of an entire industry—a burden that seems exceedingly unlikely to be satisfied when the government action at issue is opening up some additional spectrum for new users.

The previous paragraph should not obscure a further point: there is good reason to see destabilizing competition as not merely insufficiently harmful to constitute a government interest under the First Amendment, but rather as an affirmatively beneficial development for First Amendment purposes. A more crowded competitive environment means more channels of communication for the public. The limitations on speech restrictions embodied in the First Amendment are in considerable tension with the stasis of a noncompetitive environment; they seem, instead, to promote a less stable world containing a wide range of speakers. In this way, it seems fair to say that the First Amendment, far from encouraging the creation of a stable regime with a few major voices, leads to a world containing a multiplicity of voices.[241] The destabilizing competition that results from removing unnecessary limitations on spectrum (and, for that matter, other barriers to entry) seems to flow from the First Amendment; and, conversely, it is hard to see how limiting that competition can fairly be construed as consistent with the First Amendment.

B. Determining Whether a Given Level of Interference Satisfies Intermediate Scrutiny

Given that interference will generally be the only possible concern that could rise to the level of an "important or substantial" government interest, the next question is that of the level and nature of interference that will satisfy the constitutional test. Recall from Part I that all emissions of radio waves create some interference. But, as Part I also indicated, there is good reason to believe that some potential new uses of spectrum would create so little additional interference that they would have a trivial impact on existing uses—their interference would not rise above the level of background noise. Other pos-

241. *See supra* notes 112 and 161; Associated Press v. United States, 326 U.S. 1, 20 (1945) (stating that the First Amendment "rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public"); United States v. Playboy Entm't Group, Inc., 529 U.S. 803, 818 (2000):

> The Constitution exists precisely so that opinions and judgments, including esthetic and moral judgments about art and literature, can be formed, tested, and expressed. What the Constitution says is that these judgments are for the individual to make, not for the Government to decree, even with the mandate or approval of a majority. Technology expands the capacity to choose; and it denies the potential of this revolution if we assume the Government is best positioned to make these choices for us.

sible new services would create a nontrivial (though still small) amount of interference for some users, but that interference could easily be mitigated, at little or no cost. If a court is persuaded that this is so (i.e., that this is a correct statement of fact), what should it do?[242]

Conceivably, a court might hold that even the most trivial amount of interference is sufficient to constitute an important or substantial government interest. The court might conclude that once any interference was possible, the government had a strong interest in stopping it from continuing to occur or preventing it from occurring. Such an approach, though, seems untenable. Given that every device that emits radio waves—which includes almost every electrical device—creates interference, it would give the government unfettered power to limit use of the spectrum, thereby eviscerating heightened scrutiny. Application of the requirement of an important or substantial interest would be a sham, because the test would always be met.[243] This hypothetical judicial approach to interference is also unnecessary, because very low levels of interference are often not discernible.[244] It would, simply stated, be overkill.

The more obvious, and appropriate, judicial response to interference is to conclude that very low levels of interference do not rise to the level of an important or substantial government interest. This would comport with the threshold for such an interest that the Court laid out in *Turner*. In order for the government's interest in imposing must-carry regulations to satisfy the requirement of an important or substantial interest, economic harm to broadcasters needed to be so great that the entire industry was threatened; lower levels of economic harm would not be sufficient.[245] This might not require that an entire form of communication be blocked by interference in order for the threshold to be satisfied; presumably, application of the important or substantial government interest test requires something less than such a complete degradation of existing services. But, at a minimum,

242. This obviously raises tricky issues involving how a court should evaluate factual claims about interference. I leave those questions of factfinding for another day.

243. If even a small amount of interference would be sufficient to justify any government decision denying access to a proposed service, then incumbents would have an obvious incentive: encourage others to produce—or manufacture on your own—receivers so crude that any additional use of the spectrum would cause at least a bit of interference with these receivers. Such a tactic would offer a shield against new competition on the spectrum, if the existence of any interference were sufficient to satisfy intermediate scrutiny.

244. *See supra* notes 29–31, 77–79 and accompanying text.

245. *See supra* notes 98–100, 235–40 and accompanying text.

it would seem to require some nontrivial level of interference. Unless the interference itself is significant, it is hard to see how the government's interest in preventing that interference can be.

This does not necessarily answer the question about services that would create nontrivial interference for some users that is easily remediated. Low power radio is a good example. For the small percentage of radios that would suffer from interference, interference could be avoided by simply moving the radio a foot or so. No special devices would need to be purchased; the owner could eliminate the problem through just a bit of movement.

Again, a court could conclude that this level of interference satisfied the requirements of intermediate scrutiny, but, again, such a conclusion seems inappropriate. The court's analysis would have to be that any imposition on even a few individuals satisfied the government's burden. (It would be "any" imposition, because it is hard to imagine one more slight than having to move a portable radio a couple of feet.) This is a conceivable position, but it is difficult to justify. A problem can be insignificant, and thus fail to give rise to a substantial government interest, either because it is easily avoided or because it is unavoidable but very small.[246] It is not clear why a judge (or anyone else) should consider the latter but not the former a harm that is so insignificant that it cannot give rise to an important or substantial government interest. Just as one might say that a physical object in a public path (say, a news rack on a sidewalk) cannot constitute a significant harm if people can simply move laterally a few feet and thereby avoid it, so, too, might one say that an intangible blockage is insignificant if it requires only that a user move a receiver a foot or so.

It bears noting that one could also see this as an issue of tailoring. Having users avoid interference by taking the smallest of actions is an obvious alternative to keeping the proposed service off the spectrum, and one that would not restrict speech. The availability of this solution would undercut the government's denial of access to the airwaves.[247] If ever there were an easy alternative to regulating the provi-

246. On the close relationship between the underlying harm that is the subject of government regulation of communications and the level of the government interest that is necessary to satisfy intermediate scrutiny, see Benjamin, *supra* note 100, at 288 ("As part of raising the bar for what is required of legislation that infringes upon First Amendment interests, we expect the underlying harm to which the legislature is responding to be a serious one.").

247. In *Turner II*, the plurality indicated that the government need not adopt the least speech restrictive alternative, and that the existence of some imaginable less restrictive alterna-

sion of speech, this would be it. As I noted above, it is hard to imagine a regime that poses less of a burden on individuals.[248]

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tive would not doom the statute. Turner Broad. Sys. v. FCC, 520 U.S. 180, 218 (1997). The plurality stated that it would not

> "sift through all the available or imagined alternative means of regulating [cable television] in order to determine whether the [Government's] solution was 'the least intrusive means' of achieving the desired end[.]" . . . Our precedents establish that when evaluating a content-neutral regulation which incidentally burdens speech, we will not invalidate the preferred remedial scheme because some alternative solution is marginally less intrusive on a speaker's First Amendment interests.

Id. at 217–18 (alteration in original) (quoting Ward v. Rock Against Racism, 491 U.S. 781, 797 (1989)). All that was required, according to the *Turner* plurality, was that "'the means chosen are not substantially broader than necessary to achieve the government's interest.'" *Id.* at 218 (quoting *Ward*, 491 U.S. at 800).

In order to evaluate the breadth of the means chosen, though, it would seem useful to have a sense of the scope of the government's interest and the ways it could be met. The availability of some less restrictive alternative might not inexorably invalidate the government action, but it could still indicate that "the means chosen [were] substantially broader than necessary to achieve the government's interest." *Id*. So a judge would want to look at alternatives as a way of examining the tightness of the fit between the government's interest and the means chosen. *See* Benjamin, *supra* note 100, at 304 (describing how "judicial review of legislation for Constitutional purposes" involves "compar[ing] the legislation to other, hypothetical worlds that would be created if other legislation was passed"). And that is exactly what the Court did in *Turner II*: it examined the proffered alternatives to see if they really were available and effective. It found that they were not, and on that basis it found that the must-carry regime survived the tailoring prong. *Turner II*, 520 U.S. at 218. Presumably, a Court that deemed alternatives to be irrelevant would ignore them entirely or, at most, dismiss them in a couple of sentences. Instead, the opinion engaged in a careful discussion of each suggested alternative to the must-carry regime, detailing why none of them would be an adequate alternative. *Id*. One proposed alternative would not have protected enough broadcasters (the opinion so concluded about a proposal to substitute must-carry rules that would apply more narrowly); another would serve a different purpose (this was the opinion's assessment of a proposal for subsidies for financially weak stations; the opinion emphasized that "[m]ust-carry is intended not to guarantee the financial health of all broadcasters, but to ensure a base number of broadcasters survive to provide service to noncable households"); yet another would not be as effective in achieving Congress's goals (as the opinion concluded about a leased-access regime: "Because this alternative is aimed solely at addressing the bottleneck control of cable operators, it would not be as effective in achieving Congress' further goal of ensuring that significant programming remains available for the 40 percent of American households without cable."). *Id.* at 221. This extensive discussion would be unnecessary if the alternatives had no possible significance. The Court's treatment of them suggests that, on the contrary, the availability of an adequate alternative would have been quite relevant to the analysis, because it would have undercut the government's argument that its chosen means were not broader than necessary.

248. *See supra* note 246 and accompanying text. One more possible approach would be to understand this in terms of overinclusiveness—the apparent focus of the requirement that "the means chosen are not substantially broader than necessary to achieve the government's interest." *Turner II*, 520 U.S. at 218 (quoting *Ward*, 491 U.S. at 800). For many services that will cause a bit of interference, the vast majority of their transmissions will present no problem whatsoever for anyone. Rather than eliminate the proposed service entirely, the government should respond to the small number of users who suffer from interference by mitigating their problem. The idea is that keeping the service off the spectrum would be broader than necessary.

Is this alternative inadequate because it burdens users, rather than service providers? After all, the individuals are going to have to move their radios all by themselves. Is an alternative that poses different sorts of costs from the original regulation a truly viable alternative for constitutional purposes? The short answer is yes. In most cases in which a court has found that alternatives exist such that the challenged regulation is not sufficiently tailored, the proffered alternatives impose a different set of burdens from the challenged regulation.[249] The point of the challenge is to find an alternative that restricts less speech. That usually means an alternative that covers different activities (so that it is less restrictive of First Amendment interests), and it often means an alternative that applies to different parties in different ways than the original regulation did.[250]

Again, the *Turner* case is illustrative. One of the main proffered alternatives was an A/B switch that consumers would install and that would allow them to switch between cable reception (for stations provided by their cable operator) and reception over the airwaves (for their local broadcasters). Such a switch would obviously be quite unlike the must-carry regulations, with different sorts of burdens on different parties. If the fact of these differences was significant (let alone dispositive), one would expect the Court to so indicate. On the contrary, the plurality did not mention these differences, instead focusing on the difficulties of implementing this alternative (because, for example, many homes did not have antennas to receive broadcast signals and the A/B switches had technical flaws).[251]

The bottom line is that if a service will impose trivial harms—measured in the quantity of interference and the remediation necessary to avoid that interference—that will not be sufficient to support a finding that the government is justified in keeping it off the spectrum. There may be a few situations in which the government can justify excluding a new service on the grounds of some unusual harm resulting from its addition to the airwaves that is unrelated to interference—most notably, if its addition would cause the sorts of economic harm to an industry noted in *Turner*. Absent such extraordinary conditions, if a service's interference is insignificant, then the government will have no basis for denying it access to the airwaves.

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249. *See infra* note 308 and accompanying text.

250. *See id; infra* note 319.

251. *Turner II*, 520 U.S. at 219–21.

VI. THE BREADTH OF THE PRINCIPLE OF AVOIDING WASTE

A. Spectrum or Broadcasting?

My argument has focused on the treatment of spectrum as an undifferentiated means of transmission. Some will find this treatment of broadcast alongside other spectrum uses problematic. Hasn't the Supreme Court said that medium-specific review is appropriate? Doesn't this suggest that courts should treat broadcast differently from other uses of the spectrum?

Distinctions among spectrum uses would focus my argument on whatever regulatory schemes were justified by the scarcity rationale—presumably, first and foremost broadcast. But this medium specificity would not help the government in defending restrictions on any part of the spectrum. Regulation of nonbroadcast frequencies (including restrictions on their use) would be subject to ordinary heightened scrutiny, because there would be no rationale for lesser scrutiny. And, with respect to broadcast frequencies (where by hypothesis the scarcity rationale would apply), for reasons discussed in Part III.A, scarcity would not reduce the scrutiny applicable to decisions limiting spectrum availability. Medium specificity would limit the applicability of scarcity to one part of the spectrum, but the implications of scarcity for government actions constraining the use of that spectrum would remain.

The argument for treating broadcast differently is weak even as far as it goes, however. The fungibility of the spectrum makes a medium-specific analysis particularly inappropriate. One can draw a distinction between broadcast television and wireless telephony in the way that they allow people to communicate (one to many versus one to one), even though both use the spectrum. In light of this difference, it is plausible that regulation of the communications allowed by these technologies should be subject to different standards. But such distinctions do not apply to unused frequencies. All spectrum is suitable for more than one service, and all services are suitable for more than one place in the spectrum. There is no part of the spectrum that is, as a technological matter, "broadcast." Delineating some portion of the spectrum as "broadcast" for constitutional purposes and other portions as "nonbroadcast" would be arbitrary. One could decide to identify all spectrum currently used for broadcasting as constitutionally "broadcast," and all other spectrum as constitutionally "nonbroadcast," but there is no reason to convert the happenstance of ex-

isting allocational choices into the constitutionally mandated scheme. (And note that this would tend to ossify the existing allocational choices, as courts would presumably oversee any deviations from the constitutional categories of "broadcast" and "nonbroadcast."[252]) The basic point is that it makes little sense to demarcate the spectrum that is suitable for broadcasting but is unused from the spectrum that is suitable for other purposes but is unused. There cannot be one standard for "unused spectrum available for broadcasting" and another standard for "unused spectrum available for other uses," because it is the same spectrum. Because the spectrum is unused, it does not by rights fall into either category. The principle of avoiding waste, then, is not limited to broadcast spectrum. The government should avoid waste of any of the spectrum, because all of it (by the logic of the prevailing theory) is scarce.

One might complain that I am not talking about the main form of medium specificity. Courts have tended to distinguish broadcast not so much from other uses of spectrum but instead from services that do not use spectrum, notably cable and newspapers.[253] This line of reasoning does not undercut my argument, however, because that is the basic distinction that this Article explores. Courts have indeed treated broadcast differently from media that do not use spectrum, and the basis for that distinction has been the scarcity rationale.[254] The point here is simply that, although courts have often spoken in terms of "broadcast," the scarcity on which they rely is not limited to broad-

252. This relates to the point earlier in the Article about choosing among competing uses as opposed to choosing not to allow any use. If courts defined a portion of the spectrum as "broadcast" for constitutional purposes and another as "nonbroadcast," then courts would need to police any changes in the spectrum devoted to "broadcast" or "nonbroadcast" services. Courts would review all choices among competing uses, rather than merely those choices that waste spectrum. Indeed, because all changes in allocation affect either broadcast or nonbroadcast services, all new allocational choices would be subject to scrutiny. Such a review of allocational decisions is broader than the one advocated in this Article, and, unlike the approach advocated in this Article, it would essentially constitutionalize all allocational choices and thus be in some tension with *NBC*. And, as the text points out, this constitutionalization would be based on the technologically dubious notion that spectrum can be demarcated such that some is "broadcast" and the rest is "nonbroadcast" as a constitutional matter.

253. *See, e.g.*, Turner Broad. Sys. v. FCC, 512 U.S. 622, 637–41 (1994) (explaining that the Supreme Court's "justification for [their] distinct approach to broadcast regulation rests upon the unique physical limitations of the broadcast medium"); Red Lion Broad. Co. v. FCC, 395 U.S. 367, 386 (1969) ("[D]ifferences in the characteristics of new media justify differences in the First Amendment standards applied to them.").

254. As I discussed in Part III.B, *supra*, the other proffered bases for distinguishing broadcasting from other media do not justify any special treatment of broadcasting for purposes of refusing to allocate spectrum.

casting. Spectrum is sufficiently fungible that it makes little sense to treat "broadcast" spectrum as a special category of spectrum.

B. Beyond Refusals To Allocate Unused Spectrum

How broadly does this principle of nonwasting apply? As the discussion so far indicates, it applies to government refusals to allocate unused spectrum. But other questions remain. One possibility arises from the section immediately above: Do the First Amendment concerns raised in this Article apply to government decisions to limit the quantity of spectrum that is devoted to any one service? If, for example, the government limits the range of frequencies devoted to broadcasting, and opens all other frequencies only to nonbroadcasting uses, is the argument against government wasting of the spectrum applicable?

Such limits may raise a number of concerns, because the government would be constraining the number of broadcast voices on the spectrum.[255] If people were to place greater value, for constitutional purposes, on broadcasting than on other forms of wireless transmission (akin to valuing the use of presses for mass media over their use for private mailings), then we might conclude that a low limit on the use of frequencies for broadcasting created constitutional problems. But the mere fact of limiting broadcasting to a portion of the spectrum would not implicate the concern about wasting spectrum that is the focus of this Article. Choosing, say, cellular telephone users over broadcast users does not necessarily reduce usage of the spectrum.[256] Either way, the frequencies are being used.[257] In this way, choosing

255. Indeed, it is little different from the government transferring the allocation of some spectrum currently devoted to broadcast to an entirely different purpose, thereby reducing the amount of spectrum devoted to broadcast. The distinction between freezing the amount of broadcast spectrum and reducing it may simply reflect the size of the initial allocation to broadcast (i.e., that in the second situation the government initially set aside more spectrum for broadcast).

256. This applies as well, of course, to spectrum limits (or reductions) for other services—such as caps on the amount of spectrum that the FCC will devote to cellular telephony. Such limits do not, in and of themselves, waste spectrum. If, though, it so happens that such limits result in spectrum being wasted, because the prohibited service would occupy currently underutilized spectrum, then the problem identified in this Article would apply. But that is not a necessary result of spectrum caps on any particular service. Some sort of limit on the use of spectrum is necessary for this problem of underutilization to apply, but it is by no means sufficient. *See infra* discussion immediately following note 261 in text.

257. Such an allocation may be bad policy for the same reason that all spectrum allocation may be bad policy—namely, that it may make more sense to leave the market to choose what gets transmitted over different parts of the airwaves, and for that matter what is left off the spec-

among competing uses of spectrum is similar to choosing among competing licensees who want to provide a particular use.[258] In both cases, the government is choosing among various options, and presumably the frequencies will be used regardless of that choice.

1. *Underutilization and Spectrum Management*. This is not the end of the story, though, because allocation decisions can be relevant to the concerns raised in this Article if they have the effect of creating underutilization of the spectrum. Recall from Part I that on some parts of the spectrum the government limits a licensee to one prescribed use of its frequencies and also allots to that user more spectrum than it needs for the particular service. Even if a potential new user reached an agreement with the existing licensee to use a bit of the licensee's extra frequencies for a noninterfering use, the new use would not be permitted; the rules governing the license would not permit it.

In such circumstances, the potential new user would have the same complaint about this allocated spectrum that the potential user of the unallocated FM buffer would have—that the government's restrictions on the use of the spectrum had the effect of unnecessarily keeping spectrum idle. The main difference between the two claims would be that in one case the idle spectrum was unusable because unallocated, and in the other it was unusable because of the strictures on the allocation.[259] The essence of each claim would be the same: the

trum entirely (so that it is delivered via wire or not at all). *See, e.g.*, Pablo T. Spiller & Carlo Cardilli, *Towards a Property Rights Approach to Communications Spectrum*, 16 YALE J. ON REG. 53, 69 (1999) (arguing for "granting the licensee the ultimate choice of application of the spectrum"); Howard A. Shelanski, *The Bending Line Between Conventional "Broadcast" and Wireless "Carriage"*, 97 COLUM. L. REV. 1048, 1079 (1997) (suggesting that "the fundamental rule should be to de-zone spectrum usage where possible"). After all, if fewer people want to pay for a twenty-four hour channel focusing on the lives of law professors than want to pay for a twenty-four hour channel focusing on the lives of celebrities, then perhaps the latter should prevail; and the same might be true for our twenty-four hour law school channel versus cellular telephony. The twenty-four hour law school channel could still try to transmit via wire. And if it could not succeed there, maybe that should tell its backers something about the desirability of watching law professors in action. Having the government make allocation decisions might even raise constitutional issues. If allocation is as difficult to defend as the above suggests, it might not survive whatever level of scrutiny would be applied, on the theory that the government was controlling modes of speech with little justification. But that argument is separate from concerns arising from the wasting of spectrum.

258. *See supra* notes 199–201 and accompanying text.

259. *See supra* note 66 and accompanying text.

There is one other possible difference that would be of tremendous importance both to the potential users and to the current licensees, but which is tangential to the arguments put

forward in this Article: new uses of allocated spectrum raises the question of the breadth of the existing licenses. This is purely a question of how the rights in the license are constructed and construed. If a license to broadcast television were construed as giving the licensee complete control over a given range of frequencies, then any potential user would have to obtain the existing licensee's agreement before it could offer a new service—just as someone who wanted to offer a new service on a portion of a parcel of land would have to gain the approval of the parcel's owner. If, on the other hand, a license to broadcast were construed as conferring only the right to broadcast on that range of frequencies without interference, and as not including a broader property right in that range of frequencies, then a potential new user would not have to gain the agreement of the licensee. Just as someone who held only the mining rights to land would have no claim if the owner of the surface allowed a new use that did not interfere with the mining, the holder of the broadcasting rights would have no claim against a new user; the licensee could not claim interference with her rights to that range of frequencies, because she would have no rights other than the right to broadcast.

This question of the extent of a licensee's rights is for the most part separate from the issues discussed in this Article. The construction of the breadth of the license determines how the surplus created by the new service will be divided—specifically, whether the existing licensees get a piece of the action. It does not of its own force determine whether the service will be allowed in the first place, and there is good reason to expect that most promising new uses will make it on to the spectrum under either regime. Someone with a promising new use of land usually finds willing sellers, and economic rationality should apply with equal force to land and spectrum holders. If the spectrum holders tried to form a cartel in order to keep the new use off the spectrum (or simply to raise their prices collectively), or if all the spectrum in a market were held by one entity, then existing competition laws would kick in, as they would in the real property context. *See infra* note 281 and accompanying text. It bears noting, though, that there is an empirical dispute among commentators as to whether private property rights will produce a suboptimal number of new services like spread spectrum, because it would produce too few opportunities to use a broad swath of frequencies. Yochai Benkler contends that broad property rights will result in inefficient sharing of spectrum, on the theory that such uses would cover a sufficiently large number of licenses that there would be high transaction costs and collective action problems. Yochai Benkler, *Overcoming Agoraphobia: Building the Commons of the Digitally Networked Environment*, 11 HARV. J.L. & TECH. 287, 362 (1998) (arguing that "[t]here are collective action problems associated with collecting enough spectrum to sustain a robust unlicensed operations market" and that "the transaction costs involved in assembling and subletting the required spectrum are likely to be high"). Thomas Hazlett, by contrast, argues that these problems can easily be overcome, and that failing to recognize broad property rights creates its own inefficiencies. Hazlett, *supra* note 27, at 496 (describing Benkler's assertion "that free markets will not produce efficient sharing" as "uncompelling"); *see also* HUBER, *supra* note 20, at 75 ("Markets find ways of reassembling private pieces into public spaces when that is the most profitable thing to do. They may take more time than an omniscient central authority, but finding [such] authority takes even longer."). An additional consideration is that information asymmetries between spectrum owners and the government may counsel in favor of broad ownership rights. For example, if an incumbent performs its own research and finds that a proposed use of the spectrum allocated to the incumbent would interfere with its signal, but that the incumbent could avoid such interference by making an inexpensive modification in its own service, it would have no incentive to reveal that information to the government (or anyone else) if it did not share in the returns that the proposed service offered. *See* Hazlett, *supra* note 27, at 390 ("[I]ncumbents maximize profit by withholding information, advancing narrow arguments against entry."). This might be quite relevant in the spectrum context, because as I noted in Part I there are a number of situations where a given wireless service will cause of bit of interference,

government is preventing my noninterfering use through its limits on the use of spectrum, and thereby is wasting spectrum. This highlights the significance of restrictions on licensees' use of the spectrum. More governmental restrictions on licensees' use of their frequencies translate into a greater likelihood that frequencies will be wasted.

Does this mean that it is unconstitutional for the government to single out a particular service for a given slice of spectrum, and to prohibit the user from providing a different service instead? No. The concern here involves the government failing to allow all the utilization of the spectrum that it could allow. The argument does not extend to situations in which the utilization allowed is not the highest and best use. This flows from the gravamen of the First Amendment claim on which I am focusing. If government restrictions on the use of spectrum result in a situation where more services could fit on a set of frequencies (without causing additional interference) than currently occupy it, a potential user of those frequencies can fairly claim that the government has needlessly kept some capacity off the market—akin to prohibiting the use of some printing presses. If the government approves a single use of a given slice of spectrum that is not very popular but that fills the spectrum so completely that no additional service could be added without creating nontrivial interference, a potential new service provider could not add nondisruptive voices to the spectrum and thus cannot say that some of the spectrum is idle. So the FCC could, consistent with the principle of nonwasting laid out in this Article, offer a license on

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but that interference can be avoided through remediation. Allowing spectrum holders to buy broader property rights would give them an incentive to identify such situations.

As a policy matter, the best idea might be to experiment with different approaches, so that in some spectrum private ownership rights cover all potential uses and in others they do not. *See* Coase, *supra* note 137, at 33 (proposing, with respect to wireless services, that "what would be sold, is the right to use a piece of equipment to transmit signals in a particular way"); Faulhaber & Farber, *supra* note 58, at 14 (suggesting as good public policy a regime in which "spectrum would be owned but subject to an easement that any and all users that did not meaningfully interfere with the owner's right to the spectrum could not be excluded from using the spectrum"); Eli Noam, *Spectrum Auctions: Yesterday's Heresy, Today's Orthodoxy, Tomorrow's Anachronism. Taking the Next Step to Open Spectrum Access*, 41 J.L. & ECON. 765, 778–80 (1998) (proposing an open spectrum access regime under which people would pay for the use of spectrum for a particular purpose via instantaneous auctions). In any event, even if transaction costs and collective action problems were so great that they hindered an otherwise promising new service from using the spectrum, it is far from clear that such private actions would be sufficiently attributable to the government to give rise to the sort of wasting claim that is the focus of this Article.

condition that the licensee, for example, broadcast with enough power to reach a one-hundred-mile radius, even if the licensee would prefer that it broadcast only with enough power to reach a 10-mile radius and then use the remaining spectrum for another purpose entirely. And if that one-hundred-mile broadcasting occupied all of the spectrum such that any additional use would create significant interference, then the licensee would have no basis for seeking to add a new use on its frequencies.

There is, though, a bit more to the story. If the government designated a portion of spectrum for a service so unprofitable that no potential licensee came forward and the spectrum simply sat unused, then a potential provider of a different service would have a claim that the government was wasting the spectrum. This is not a fanciful proposition. As I noted in Part I, some portions of the spectrum have never found takers; the spectrum at issue could, as a technological matter, be put to many profitable uses, but the government allowed only a use that turned out to be sufficiently unpopular (relative to its cost) that no one wanted to provide the relevant service.[260] In such situations, a potential provider of a different service would have a strong argument that the spectrum was being wasted.[261]

So, then, does the discussion in this Article mean that refusing to allow supplemental services on spectrum is unconstitutional? Not quite; it is necessary but not sufficient for a claim of underutilization.

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260. *See supra* notes 57–65 and accompanying text.

261. One might imagine that a provider of the authorized service might apply for a license and use the relevant spectrum, just to prevent those frequencies from being opened up to another use. But few competitors will indefinitely provide an unprofitable service simply to block a competitor, particularly where there is sufficient supply that the competitor can likely undertake its business with other spectrum (or with wire); and as soon as the licensee ceased to provide the service, the offeror of the new service could reinvigorate its claim to the newly fallow frequencies.

This highlights one of the mistakes in the proceeding that produced digital television. The Commission spent so long (about ten years) creating the service rules for the digital television spectrum, and imposed such slight requirements on licensees once it did create the rules, that that portion of the spectrum may end up being effectively occupied for twenty or more years by a service that will never be profitable. *See, e.g.*, Jenna Greene, *Digital TV a Remote Possibility*, LEGAL TIMES, July 30, 2001, at 1 (noting that most commercial stations are not transmitting digital signals and that many observers believe that digital broadcasting will not be profitable in the foreseeable future); Christopher Stern, *Mixed Signals: Broadcasters' Promise of a Digital TV Age Has Not Been Met, and Now Congress Is Having Second Thoughts About Its Role*, WASH. POST, Dec. 17, 2000, at H1 (noting the low demand for digital broadcast television). For a discussion of why the National Association of Broadcasters pushed the FCC to designate spectrum for high definition television (which became digital television), even when it had reason to doubt the viability of the service, see Hazlett & Spitzer, *supra* note 69, at 124–29.

A potential new user of a given set of frequencies would have to show that its service would create very little interference with other licensees or with the existing service. I have already discussed the requirement that the new use not create additional nontrivial interference with other licensees. That danger is the same whether the frequencies are unused or underused. Either way, there is a danger that a new use, on unallocated frequencies or frequencies allocated for another purpose, could interfere with an existing use of another licensee. But because underused frequencies are, by definition, frequencies that are currently being utilized (or, more accurately, underutilized) for one or more services, there is an additional potential cost in the form of interference with, or degradation of, an existing use of the particular license involved.

At first blush, this concern might seem implausible. Why might an existing licensee allow anything to interfere with its main service? The answer goes back to the fact that some uses are much more highly valued than others. If a licensee provides a relatively unpopular service for which it makes a small profit, and a potential provider of a different, more popular service offers the licensee a huge amount of money for each kilohertz it can transfer to the new service, the economically rational response is to transfer as much spectrum as possible. If continued holding of the license requires that the licensee provide its original service, then the licensee will not abandon its original service but still will have an incentive for it to occupy as little space as possible, with the maximum amount of interference that the FCC will permit. Again, this is not fanciful. As I noted in Part I.B, the government set aside a big swath of spectrum for instructional fixed television service.[262] That service is not very tempting for most schools, but the FCC allowed schools to lease extra spectral capacity to MMDS providers. Those providers came calling with plans to offer wireless broadband services, and they offered hundreds of millions of dollars for spectrum that had little value for school broadcasting.[263] The catch is that schools have a right to this spectrum only if they broadcast at least twenty hours per week of educational programming.[264] Once that standard is met, they can license up to 95 percent of

262. *See supra* notes 61–65 and accompanying text.

263. *See* Wigfield, *supra* note 63, at B1 (discussing private companies' efforts to purchase spectrum rights from schools with ITFS licenses).

264. 47 C.F.R. § 74.931(c)–(d) (2001).

their spectrum for other uses.[265] Thus schools cannot abandon their broadcasting service, but they have an incentive to let the truly profitable services take center stage—and if their broadcasting suffers, so be it. And just as the government has an important or substantial interest in preventing a new use from significantly interfering with services on other frequencies, it has such an interest vis-à-vis interference with the existing service on that set of frequencies.[266]

The only difference between unused and underused spectrum is that the former is allocated to no one, and the latter already has an occupant. This distinction is in many ways an artifice: FM buffers would be "underused spectrum" if the FCC allocated those buffers to individual licensees but did not let them use it, rather than leaving it unallocated (and unusable). But the discussion above highlights one possible impact that this distinction might have: both unused and underused spectrum entail nearby users of other spectrum assignments who might be affected by the proposed use, but underused spectrum also entails a current user who might have an incentive to provide worse service (in order to leave more space for other uses).[267]

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265. *Id.* § 74.931(d).

266. This may seem to raise an underlying question: Would the rationale put forward in this Article allow the FCC to prohibit a licensee from allowing the prescribed service to degrade—or, for that matter, simply abandoning the prescribed service—if the licensee has a more profitable use waiting in the wings? Is it permissible for the FCC to condition continued holding of a license on the provision of a service that is so marginal in the first place? This is merely a new iteration of the question discussed above about preferring one use to another. It may be bad policy for the FCC to require marginal uses, and it may violate the Constitution for a variety of reasons, but it does not run afoul of the principle against wasting that is the focus of this Article. The spectrum is still being occupied, just not by its highest and best use. If the government decides that it is in the public's interest to have the spectrum occupied by a relatively unpopular service, the arguments marshaled in this Article present no obstacle. Note, though, that if the service is so unprofitable that licensees abandon their spectrum, then wasting concerns would arise. Indeed, that is no different from a situation where a single permitted use is so unprofitable that no one offers it in the first place (as was the case, for instance, with many UHF television allocations, *see supra* notes 57–60 and accompanying text).

267. To put the point somewhat differently, incumbents who are not affiliated with or receive funds from a new provider have no incentive to let their service be degraded by the new service, and in fact have an obvious incentive to detect and report any interference that the new service might create. Such interference harms their existing service (and creates more competition), so there is every reason to oppose it. (And, of course, that has been exactly the course of dealing of current incumbents toward the prospect of new services, such as low power broadcasting. *See supra* notes 38, 52–54, 66–71 and accompanying text.) For incumbents who let a new service onto their spectrum and receive compensation for that permission, by contrast, the incentive to detect interference is diminished insofar as the new service is more remunerative than the existing one. Note that this is just the flip side of the point made above about incumbents' incentive to reveal ways that interference can be mediated if the incumbents have an economic

Thus, this suggests the availability of an argument for the government in the underused spectrum context that would not be available for unused spectrum—that it wants to prevent alternate uses of the assigned spectrum, even if that results in underused spectrum, because it wants to give licensees an incentive to provide the best possible service in its primary use. Perhaps the government has an important or substantial interest in limiting, say, broadcasters to providing digital television, even if spectrum is underused as a result, because the government wants broadcasters to make their broadcasts as good as they can be.

This argument would not justify a blanket prohibition on supplemental services, because some of those other services would create only trivial interference with the primary use no matter how capacious (and high quality) the primary use was. An example here is UWB, which involves transmissions at such low power levels that their interference does not rise above the background noise that is always present (due to background radiation in the universe and ordinary electrical devices unrelated to broadcast television).[268] Because these UWB services would not impact the licensees' choice of how much spectrum to devote to its primary use, it is difficult to see how the government could justify excluding them on the grounds of providing the wrong incentives to licensees.

As for other services, nothing in the principle against wasting prevents the FCC from establishing criteria for a licensee's primary service that result in the licensee using its entire spectrum for that primary service.[269] So, insofar as the FCC wants to effectively force licensees to focus on their primary service, it can do so through the minima it applies to that service. Significantly, that is how the FCC structures many of its assignments. The FCC does not require that licensees use all their spectrum for the primary service. Rather, the FCC decides on the signal it wants licensees to send, based on its determination of the level of service that it desires, which in turn reflects judgments about how big an area should be covered, and perhaps about the quality of transmission (e.g., television signals with a certain number of lines per screen). The FCC's interest in having licensees occupy all their spectrum is not an end in itself—indeed, the goal

interest in the new services, and incumbents' concomitant disincentive to reveal such information if they will not participate in the surplus created by the new service. *See supra* note 259.

268. *See supra* notes 74–79 and accompanying text.

269. *See supra* pp. 87–88.

should be to *avoid* having licensees occupy spectrum purely for the sake of occupying it—but instead is presumably designed to bring better service to users. It would be remarkable, and extremely troubling, if the goal of service requirements were just to force licensees to use more spectrum. The goal of service requirements that is legitimate (and is the professed aim) is bringing better service to the people. That goal can be met directly by service requirements, rather than the indirect and inefficient proxy of requiring that a licensee use all its spectrum for its primary service.

But, the FCC might respond, the difference between setting out a standard that ends up occupying all the spectrum and telling licensees to devote all their spectrum to their primary service is that the latter gives the FCC more feedback as to when improvements in the primary service are possible, because it encourages companies to spend money improving their service. Such reasoning is unpersuasive, though, in light of the investment options available to a licensee (or anyone else, for that matter). A licensee will spend only as much money on a given service as is justified by the returns on that service. Once it has invested that money in the relevant service, it will look for other places to spend its money. Those other places might be services adjoining the first one, or they might be a completely different enterprise. There is no reason to believe that cutting off one of their many investment options—adding a supplemental service on their spectrum—will make them more likely to spend money that they otherwise would not spend on their primary service. That might be true in a world where there were only two investment options; prohibiting one of those options might lead people to invest in the other, because they had no choice in the matter. But that obviously is not the case for licensees, who, like all possible investors, have myriad choices available to them. Simply stated, cutting off spending on secondary services seems unlikely to divert funds to the primary service.[270]

270. This is not mere speculation. The experience with spectrum devoted to a single use has been that companies often invest in their service in such a way that they have unoccupied spectrum. *See supra* notes 56–60 and accompanying text. The fact that more spectrum in their assignment is freely available for their use does not lead them to spend more; they have reached the level of spending that they consider to be justified, so the readily available surfeit does not induce them to spend more—even when they cannot do anything else with the spectrum. That is why, after all, so many single-use spectrum assignments (like television broadcasting) have left room for new services: even though only one service can be provided on that spectrum, broadcasters transmit at a level that does not occupy all the spectrum.

It also bears noting that allowing supplemental services would seem to better serve a governmental goal of receiving feedback about when the primary service can be improved. One of the most useful forms of feedback that the government can receive about the availability of better service is a licensee's assertion that it has room on its spectrum for more services. A licensee has no incentive to so indicate unless it can provide supplemental services on those frequencies. Whenever a potential user informs the FCC that there are underused frequencies available for another use, the FCC will know that the licensee could devote more of its spectrum to its existing use, and so the FCC will be able to raise the requirements for the primary service.[271] Of course, if the FCC always responds by raising the requirements so that the primary service occupies the entire spectrum assignment, then licensees will not come forward to request new spectrum in the first place. If so, the FCC will gain less feedback than it otherwise would—but, significantly, no less feedback than it would receive by disallowing supplemental uses in the first place.

That said, this discussion suggests one possible situation in which the government might actually have an important or substantial interest in keeping spectrum underutilized: if the government reasonably feared that a new service on already assigned frequencies would degrade an existing service, but that the government would not be able to detect such degradation (or perhaps would have great difficulty doing so), the provider of that existing service would not report it, and users of that existing service would not report it, then the government might have an important or substantial interest in refusing to allow the new service on the underused frequencies. In such circumstances, a refusal to allow the new service might seem to make some sense, on the theory that undetected interference might never be stopped. It would be a variant of the principle that interference would constitute an important or substantial government interest: here, the danger would be of unreported interference. This variant, though, would seem to arise rarely, if ever. The problem is that the likelihood of all these reasonable fears arising seems quite small. First, the government would have to reasonably fear interference but not be confident in its fear. If the government knew that the new service would interfere, then it would have the interest in blocking the new service

271. As I noted above, eliminating the wasting of spectrum via raising service requirements rather than allowing supplemental services does not run afoul of the principles laid out in this Article. *See supra* pp. 85-88.

discussed in Part V. Second, the government would have to believe that it could not (or could only at very great cost) detect interference.[272] This assumption seems implausible, as the government has enormous resources at hand to identify interference if the government so desires. In fact, the government frequently engages in just this sort of test.[273] Third, there would have to be a reason to believe that the provider of the existing service would prefer to let its primary service be degraded than to report it, because its revenue from the aspect of the new service that created the interference was greater than the cost to its existing service imposed by that interference. This is possible—and the greater the disparity between the price paid by the new service and the value of the existing service, the more possible it would be. But the government would be aware of this incentive as well, and so a high disparity would put the government on alert, making it even easier for the government to detect interference (because it would know to focus on those few situations where the disparity between the value of the existing service and of the new service was great). Fourth, the government would have to reasonably fear that users would fail to report the problem. This may be the most implausible of all the assumptions. There is a well documented history of users complaining to the FCC about all manner of interference (many that have nothing to do with issues under the FCC's control), as there are always some users who are vigilant and are willing to make noise.[274] In sum, it seems sufficiently implausible that the FCC would not find out about interference that it is hard to imagine a situation in which the FCC reasonably feared a degradation in service

272. A slightly different possibility is that the government could detect interference but would be unable to do so as a political matter, either because the FCC chose not to focus on it or because Congress denied funding for such detection. The argument that this gives rise to an important or substantial government interest suffers from the same flaw, though, as the entrenchment concern discussed in Part V.A: the government would be creating its own interest. The important or substantial interest would flow from the government's unwillingness to use readily available tools. As I discussed above, *see supra* notes 230–31 and accompanying text, such an argument fails.

273. *See supra* notes 40–47 and accompanying text. Indeed, in the low power radio context the government set up a straightforward system in which it would respond to complaints of interference by monitoring low power signals to see the extent to which they in fact interfered. Creation of Low Power Radio Service, 15 F.C.C.R. 19208, ¶¶ 58–68 (2000).

274. *See, e.g.*, Meyers, 15 F.C.C.R. 8045, ¶ 3 (2000) (noting "numerous complaints alleging intentional interference to users on the Memorial Emergency Repeater Association's 145.470/144.870 MHz amateur radio repeater in Houston"); W. Cities Broad., Inc., 11 F.C.C.R. 16,740, ¶ 25 (1996) (describing complaints by two-way radio users regarding alleged interference from a nearby FM station).

of which it would not be aware.[275] It is difficult to posit a realistic set of facts in which the FCC would not be able to invoke the straightforward problem of detectable interference, yet would have sufficient reason to fear that interference would go unnoticed. But if such circumstances arose, then this form of interference, too, would seem to qualify as an important or substantial government interest.

What about those for whom investment options are not the problem, but the absence of capital is? If that is the government's concern, it cannot justify limiting these licensees to their primary service, and instead should take the opposite route. For licensees who are short of funds, the only sensible position would be to allow supplemental services. Those supplemental services can be an extra source of income, and thus can help to fund improvements in the primary service that the licensee provides. If the primary service is not supplying enough cash for the licensee to provide a high quality service, then limiting it to that service does nothing to improve quality or coverage. The only possible quality or coverage improvement would come with an infusion of capital, and the obvious source of that capital is supplemental use of the spectrum. And if the licensee is not inclined to spend those additional funds on the primary service, then the government is no worse off; it would simply be that the licensee already was spending exactly as much as it saw fit on its primary service, and would choose to invest any additional funds elsewhere, so the licensee would not of its own accord spend more on its primary service. In fact, even in this situation the government would be better off by allowing those supplemental services. Now that the previously cash-poor licensee had more funds, the government could impose greater service requirements on the licensee. If the licensee were restricted to its primary service, it would have no ability to meet those

275. This fear of interference would not necessarily be limited to underused spectrum. It could conceivably apply to any situation in which an incumbent (whether the user of the actual slice that the new service would use or a nearby slice) was, in effect, paid off by the new provider to keep quiet about interference that the new service created. So, again, if there was a great disparity between the value of the new service and that of the existing service, the incumbent on the nearby spectrum who received a significant payment from the new service might have an incentive not to report interference, if the payment from the aspect of the new service that created the interference was greater than the incumbent's loss due to the interference with its existing service. But note that this involves all the assumptions laid out in the text plus one more: that the parties would successfully keep this payment hidden from the FCC, so that it would not be alerted to just this danger of interference that there was no incentive to detect.

requirements. The extra money from the supplemental services would allow it to do so.[276]

The upshot is that underused spectrum, like unused spectrum, can be the basis of a First Amendment claim. The government might reasonably claim that it has an important or substantial interest in preventing interference not only with other licensees but also with the services provided by the licensee on whose spectrum the additional service will appear. If a licensee proposes a use that would trivially interfere with existing uses (either those of other licensees or of the applying licensee), however, then the First Amendment obligates the government to allow that use.

2. *Giving More Than Enough Spectrum to Private Licensees*. The discussion so far has focused on wasting of the spectrum arising from government restrictions on it. Would the same concerns arise in a situation where the government gave more bandwidth to a private party than it would need for its intended use? That is, would a potential provider of a new service have a First Amendment claim based on wasting against the private party? First, as an empirical matter one would not expect to see such wasting absent government restrictions on spectrum. If the government does not restrict the licensee's use of the spectrum, then the allotment of so much spectrum should not produce any wasting of the spectrum. Imagine, by way of extreme example, that the FCC chose to assign all the spectrum on the FM radio dial in ten huge chunks of about 2 megahertz each to ten separate licensees. Whether or not a given licensee was a radio broadcaster, it would be in its interest to sell or use all the rights that it was given. The property here is like any other property. Just as, say, a landowner who owns a huge parcel of newly valuable land likely will not let it lie

276. Indeed, a major argument in favor of supplemental services has been that they provide licensees low on funds with the additional money necessary to improve their main service. When the FCC has been concerned that providers of certain services had the desire but not the funds to provide first-rate service, it has allowed them to supplement their income from operations from new services. An example is the ITFS allocation mentioned above. *See supra* notes 61–65 and 262–66 and accompanying text. One of the reasons that the FCC approved MMDS as a secondary use was as an infusion of cash to schools, so that they could provide better broadcasting in the first place. *See* OFFICE OF ENG'G AND TECH. ET AL., FED. COMMUNICATIONS COMM'N, SPECTRUM STUDY OF THE 2500–2690 MHZ BAND: THE POTENTIAL FOR ACCOMMODATING THIRD GENERATION MOBILE SYSTEMS 19, *at* http://www.fcc.gov/3G/3G_interim_report.pdf (Nov. 15, 2000) (on file with the *Duke Law Journal*) ("ITFS licensees are permitted to lease excess channel capacity to MDS licensees, with the income from those leases typically helping to underwrite the cost of providing the ITFS service.").

fallow, an owner of valuable spectrum likely will make sure to sell spectrum rights to the highest bidder. It may be that the owner would reserve some frequencies to itself—treating itself as the highest bidder—in the hope that holding on to some frequencies would prove more profitable in the long run than would an immediate sale. But the owner would almost certainly use the spectrum, just as the landowner with the valuable land would. Indeed, it is more clear that the spectrum owner would do so. With land, there is some value to keeping it free of any uses—the value of being able to look at pristine land, the benefits to the environment of having undeveloped land rather than concrete, etc. Unused spectrum, though, has no value; you can't look at it, can't smell it, can't taste it, can't enjoy it in any way. Moreover, insofar as the spectrum is scarce,[277] the owner of that spectrum is all the more likely not to waste this valuable resource. This is not to say that private ownership of all this spectrum will have distributional effects that make us happy. Giving control of the spectrum to a few entities may lead to pabulum on the airwaves.[278] My point here is simply that the spectrum likely would not be wasted.

There have been accusations of spectrum warehousing—that is, a private party failing to open up its spectrum to other uses even as it uses the spectrum inefficiently or fails to use it at all. Probably the clearest case of warehousing arose in the high definition television (HDTV) context: in the mid-1980s, broadcasters were worried about an FCC proposal to allocate unused UHF spectrum to land radio uses. The broadcasters therefore pushed for an HDTV proposal as a way of keeping this spectrum allocated for television, even though

277. Or, more modestly, insofar as allowing particular uses of spectrum creates value for a given set of users.

278. In some circumstances monopoly can produce greater diversity in types of programming than multiple ownership would. For demonstrations of this as an economic model, see Peter O. Steiner, *Program Patterns and Preferences, and the Workability of Competition in Radio Broadcasting*, 66 Q.J. ECON. 194, 206 (1952) (presenting a model that shows how "a series of competing firms, each striving to maximize *its* number of listeners, will fail to achieve either the industry or the social good"); Jack H. Beebe, *Institutional Structure and Program Choices in Television Markets*, 91 Q.J. ECON. 15, 35–36 (1977) (presenting a more generalized model to illustrate the circumstances under which monopoly will produce greater diversity in programming); and as an empirical reality, see Lisa George, What's Fit to Print: The Effect of Ownership Concentration on Product Variety in Daily Newspaper Markets, Paper Presented to the 2001 Telecommunication Policy Research Conference, *at* http://www.arxiv.org/ftp/cs/papers/0108/0108014.pdf (Aug. 1, 2001) (on file with the *Duke Law Journal*) (describing the increase in total content variety that results from increased ownership concentration in markets for daily newspapers).

they had no intention of using that spectrum for years to come.[279] But warehousing is not surprising in situations (like that involving the UHF spectrum set aside for HDTV) where the licensees cannot put the spectrum to any other use, and where limits on spectrum flexibility mean that allocating the spectrum to another use (here, land mobile radio) would preclude a future use of that spectrum for broadcasting.[280] In such situations, there would be no opportunity cost of keeping the spectrum idle (because the broadcasters would receive no compensation if the spectrum were put to a different use), and there would be a significant cost of allowing it to be reallocated (because then the broadcasters might lose any chance to broadcast over the spectrum in the future). If there were no governmental limits on spectrum, so that spectrum could be freely sold and used for other purposes, then these incentives for warehousing would disappear, and there would be little reason to expect it.

That said, if the government allowed one licensee to obtain the rights to so much spectrum that the licensee effectively controlled a relevant market (imagine that the government gave to one company, or stood idly by while one company agglomerated, all the spectrum suitable for satellite transmissions), the company with this monopoly might have an incentive to maximize its revenues by holding some spectrum off the market. And if the government were so unwise as to allow the entire spectrum to be in the hands of a single owner, the monopolist would then simply be in the position currently occupied by the government, with the same incentives regarding maximization of revenue.[281] If a private party (or perhaps a few parties) wound up controlling a market for spectrum in this way, then any resulting nonallocation of that spectrum might well be attributable to government

279. *See* JOEL BRINKLEY, DEFINING VISION: THE BATTLE FOR THE FUTURE OF TELEVISION 3–27 (1997) (chronicling the interplay between the development and promotion of HDTV and broadcasters' efforts to retain their spectrum); Kyle Pope & Mark Robichaux, *Hype Definition: Waiting for HDTV?*, WALL. ST. J., Sept. 12, 1997, at A1 ("HDTV had little or nothing to do with consumer demand; it was born out of a power grab by the broadcasting community in the 1980s as a way to keep valuable broadcast spectrum from being parceled out to paging companies and other data communications concerns."). The original plan for HDTV morphed into the current allocation for digital television, which may or may not be high definition. *See* BENJAMIN ET AL., *supra* note 16, at 359-60 ("Overall, a system that once started out as 6 megahertz for HDTV (either digital or analog) has become 6 megahertz for a number of services, one of which will be DTV [digital television]—but perhaps not 'high definition' television at all."). On digital television, *see supra* notes 71–73 and accompanying text.

280. On the entrenchment that can make the government unwilling to shift spectrum from one use to another, see *supra* notes 226–31 and accompanying text.

281. *See supra* note 117 and accompanying text.

action and thus subject to the sort of First Amendment scrutiny that this Article discusses. Such a First Amendment challenge would likely be unnecessary, however, as the accumulation of spectrum in this way would probably run afoul of antitrust laws. And once there were enough licensees to constitute suitable competition for antitrust purposes, none would have the monopolist's ability to keep some spectrum off the market in order to raise the price of the remaining spectrum to supracompetitive levels. As with any competitive market, no rational firm would have reason to constrict supply, because no firm would have reason to believe that it could capture the higher prices that the limited supply would produce.

But what if the government allocated spectrum to many different private parties and allowed them to engage in any noninterfering use of the spectrum that they chose, and still one or more of those private parties—without colluding or otherwise violating antitrust laws—chose not to allocate all of it? That is, what if private parties decided to waste spectrum on their own, even though they could easily choose to utilize it? Couldn't one argue that such private wasting of the spectrum raises exactly the sort of First Amendment problems that government wasting raises? The short answer is that one could so argue, but one would have to rely on arguments beyond those put forward in this Article. This Article discusses the implications of the current regulatory regime applicable to spectrum, and in the current scheme government actions constraining access to communications media clearly implicate the First Amendment, but private actions constraining such access do not. Courts have refrained from finding that the First Amendment imposes any limit on restrictions imposed by private actors.[282] Nothing in this Article is inconsistent with that un-

282. *See* Pac. Gas & Elec. Co. v. Pub. Util. Comm'n of Cal., 475 U.S. 1, 20–21 (1986) (holding that a state utility commission could not constitutionally compel a private utility company to include in its billing envelopes materials produced by an adverse group); FCC v. WNCN Listeners Guild, 450 U.S. 582, 604 (1981) (rejecting listeners' challenge to the FCC's decision not to review radio stations' changes in entertainment programming, and instead to rely on market forces to serve the public interest in diverse entertainment programming); Miami Herald Publ'g Co. v. Tornillo, 418 U.S. 241, 258 (1974) (holding unconstitutional a state statute guaranteeing political candidates media access to respond to criticism). Interestingly, the main judicial support for this broader conception of the First Amendment appears in *Red Lion*, where the Court invoked "the right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and experiences." Red Lion Broad. Co. v. FCC, 395 U.S. 367, 390 (1969). This language suggested that the government had an obligation to ensure such access, and arguably intimated that the Court might find that individuals had First Amendment rights against both the government and private parties. These possibilities never bore fruit however, as the Court has never held that the First Amendment imposed any affirmative obligations on the government,

derstanding of the First Amendment. The arguments in this Article are separate from the argument that wasting applies to private as well as government actors.

3. *Adding Voices Versus Displacing Them*. It is important to distinguish the concern about underutilization from measures that are designed to enhance some people's access to the airwaves and/or to enhance the diversity of voices on the airwaves. Congress and the FCC have created a number of such regulations over the years. Some laws give preferential access to speakers with certain kinds of messages. Right-of-reply regulations (like those at issue in *Red Lion*) guarantee access to people who have been personally attacked or whose political causes have been editorialized against.[283] Similarly, a federal statute provides that if a broadcaster permits a legally qualified candidate for public office to use a broadcast station, it must afford equal opportunities to all legally qualified opponents for the same office.[284] Other laws seek to boost the chances of spectrum licenses being owned by people with particular characteristics, with the stated hope that greater diversity in ownership will lead to greater diversity in programming.[285] The main groups targeted for benefits under these programs have been racial minorities and, to a lesser extent,

much less that the First Amendment applies to private action. The main case quoting this language is *WNCN Listeners Guild*, and in that case Justice White (the author of *Red Lion*) rejected the argument that this language entitled listeners to make a First Amendment claim against private programming decisions that limited their listening choices. *See* 450 U.S. at 604 (stating that, in *Red Lion*, "we did not imply that the First Amendment grants individual listeners the right to have the Commission review the abandonment of their favorite entertainment programs").

283. These personal attack and political editorial rules have had a long and tortuous history. *See* BENJAMIN ET AL., *supra* note 16, at 187–89 (describing this history in detail). In 1980, the National Association of Broadcasters filed a petition requesting their repeal. In 1996, after repeated unsuccessful attempts to prod the FCC to take some sort of action, the Radio-Television News Directors Association filed a petition in the Court of Appeals for the D.C. Circuit for a writ of mandamus to order the FCC to act on the petition. In 2000, after several judicial opinions requesting FCC action, the FCC still had not resolved the matter. In that year, the D.C. Circuit, frustrated by the FCC's failure to respond to its earlier orders regarding the FCC's defense of those rules, ordered their repeal on these grounds. The court did not reach their constitutionality and it stated that the FCC could still institute a new rulemaking proceeding. Radio-Television News Dirs. Ass'n v. FCC, 229 F.3d 269, 272 (D.C. Cir. 2000).

284. 47 U.S.C. § 315 (1994).

285. *See* Metro Broad., Inc. v. FCC, 497 U.S. 547, 552 (1990) ("The policies in question are (1) a program awarding an enhancement for minority ownership in comparative proceedings for new licenses, and (2) the minority 'distress sale' program, which permits a limited category of existing radio and television broadcast stations to be transferred only to minority-controlled firms."), *overruled by* Adarand Constructors, Inc. v. Pena, 515 U.S. 200, 226–227 (1995).

women.[286] Recent cases have cast doubt on the constitutionality of these programs,[287] but they have not been eliminated.[288] Interestingly, the most recent statute on spectrum distribution gives favored status to racial minorities and women, but it also adds small businesses and rural telephone companies to the list.[289] Yet other access laws are not triggered by any particular message and do not attempt to enhance the ownership of particular groups, but do give preferential access to programmers who, it is feared, might otherwise be frozen out by the owners of transmission capacity. Until fairly recently, a number of such laws applied to broadcasting. The prime time access rule, for example, prevented the major television broadcast networks (at the time, ABC, CBS, and NBC) from supplying their affiliates in the fifty largest television markets with more than three hours of programming for use during the four-hour "prime time" time block.[290] The

286. *See* BENJAMIN ET AL., *supra* note 16, at 101–02 ("The FCC decided that women should benefit from some of [the advantages enjoyed by racial minorities] as well, and so, in 1978, female ownership was deemed a 'plus' in the comparative hearing process, albeit a smaller plus than minority ownership would be.").

287. *See Adarand*, 515 U.S. at 227 (establishing strict scrutiny as the standard for reviewing federal racial classifications); Lutheran Church-Mo. Synod v. FCC, 141 F.3d 344, 356 (D.C. Cir. 1998) (invalidating, under strict scrutiny, an FCC equal employment opportunity program designed for the benefit of minorities and women); Lamprecht v. FCC, 958 F.2d 382, 398 (D.C. Cir. 1992) (applying *Metro Broadcasting*'s intermediate scrutiny and finding an equal protection violation where the FCC awarded extra credit, based on gender, to a woman seeking permission to build a radio station).

288. The minority "distress sale" program, which permits only minority-controlled firms to buy some broadcast stations, remains in place today. *See, e.g.*, Idaho Broad. Consortium, 16 F.C.C.R. 1721, 1721 n.4 (2001) (describing a policy "permit[ting] a licensee whose basic qualifications have been challenged by the Commission, and whose license is therefore in danger of being revoked or not renewed, to assign the license to a minority-controlled entity prior to the commencement of a hearing," subject to certain conditions); Commission Policy Regarding the Advancement of Minority Ownership in Broadcasting, 92 F.C.C.2d 849, 855 (1982) ("We will henceforth consider . . . authorizing distress sales in transfers to limited partnerships where the general partner, or partners, owns more than 20 percent of the broadcasting entity and is a member, or members, of a minority group."); Statement of Policy on Minority Ownership of Broadcasting Facilities, 68 F.C.C.2d 979, 983 (1978) (announcing the FCC's intention to "permit licensees whose licenses have been designated for revocation hearing . . . but before the hearing is initiated, to transfer or assign their licenses at a 'distress sale' price to applicants with a significant minority ownership interest, assuming the proposed assignee or transferee meets [their] other qualifications").

289. *See* 47 U.S.C. § 309(j)(4)(D) (1994) (providing that the FCC shall "ensure that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services, and, for such purposes, consider the use of tax certificates, bidding preferences, and other procedures").

290. 47 C.F.R. § 73.658(k) (1981), *repealed by* Review of the Prime Time Access Rule, Section 73.658(k) of the Commission's Rules, 11 F.C.C.R. 546, ¶¶ 3–4 (1995).

goal of this rule was to ensure that programmers who were not affiliated with the networks would have access to one hour of prime time every night.[291] Similarly, FCC regulations placed limits on networks producing their own programming, in an attempt to ensure that, of the programming provided by the network, some would be produced by unaffiliated programmers.[292] Interestingly, the FCC has abandoned most structural regulations of the broadcast industry (including the two just mentioned[293]), and most of the currently existing access regulations of this sort are aimed not at spectrum but instead at wire—specifically, cable television.[294] Prominent among these are the must-carry rules at issue in *Turner*,[295] leased access rules, which require that cable operators make some of their channels available to unaffiliated programmers,[296] and channel occupancy limits, which (as the name suggests) limit the number of cable channels a given operator can own.[297]

These measures are usually justified as putting additional voices on the airwaves. So why don't the First Amendment arguments articulated in this Article support such actions? There are two reasons why not, either of which is independently sufficient. First, the measures restrict the actions of private parties. As I noted above, measures aimed at private parties' wasting of the spectrum rely on arguments

291. *See* Amendment of Part 73 of the Commission's Rules and Regulations With Respect to Competition and Responsibility in Network Television Broadcasting, 23 F.C.C.2d 382, ¶ 26 (1970) ("A principal purpose of our prime time access rule is to make available an hour of top-rated evening time for competition among present and potential nonnetwork program sources seeking the custom and favor of broadcasters and advertisers so that the public interest in diverse broadcast service may be served.").

292. *See* Evaluation of the Syndication and Financial Interest Rules, 8 F.C.C.R. 3282, ¶ 3 (1993) ("The FCC originally adopted the financial interest and syndication rules in 1970 to limit network control over television programming and thereby encourage the development of a diversity of programs through diverse and antagonistic sources of program services.").

293. *See* Review of the Prime Time Access Rule, Section 73.658(k) of the Commission's Rules, 11 F.C.C.R. 546, ¶¶ 1–4 (1995) (repealing the prime time access rule); Evaluation of the Syndication and Financial Interest Rules, 8 F.C.C.R. 3282, ¶ 1 (1993) (repealing limits on networks producing their own programming).

294. *See* BENJAMIN ET AL., *supra* note 16, at 413–539 (discussing the regulation of cable rates and local franchise authority; the relationships between the rights and obligations of cable operators, broadcasters and content producers; and various structural rules limiting concentration in the cable marketplace).

295. *See Turner*, 512 U.S. at 630–32 (explaining the must-carry rules, which require cable television operators to transmit the signals of local television stations).

296. 47 U.S.C. § 532 (1994).

297. *Id.* § 533(f)(1)(B) (1994).

beyond those in this Article.[298] Second, access laws are almost always *displacing* some voices with other voices and thus do not increase the net number of voices. The preferred speakers are not replacing dead air: they are replacing other speakers. This is true for rights of reply and other rights against individual broadcasters; the station just has that much less time for its own content. It is true for laws aimed at increasing certain kinds of owners: with a fixed number of licenses, the ownership battle is a zero-sum game, and each addition of a favored owner necessarily entails the subtraction of a disfavored owner. And it is true for laws that prevent owners from showing the programs that they want (e.g., the prime time access rule, leased access, etc.), as some programs or stations are replaced by others.[299] The First Amendment imperative to make spectrum available thus does not provide support for access rules.

This does not mean, though, that access and diversity regulations are irrelevant to the principle against the wasting of spectrum. The goals embodied in those regulations highlight the illegitimacy of the government failing to allow more services on the spectrum. Diversity and access regulations do not add to the total number of voices on the spectrum, but reducing unused and underused spectrum does. As with scarcity, not only do diversity and competition fail to support government nonlicensing of unused or underused spectrum, but in fact they undercut such a failure to license. The government's interests are at cross-purposes with its actions.

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298. *See supra* note 282 and accompanying text.

299. It is worth noting that, in the cable context, these limits could conceivably encourage cable operators to add channels to their services (so that they can include the stations that are bumped in favor of the governmentally preferred programming). Unfortunately, it is just as plausible that the limits would discourage them from adding capacity (if the operators feared that the government will simply claim some of the added capacity). The possible supply-enhancing effects of access rules would not apply in the ordinary broadcast context, however, as broadcasters cannot add capacity (they have only one channel, and there are only twenty-four hours in each day). Interestingly, access rules for digital broadcasting (if there were such rules) could conceivably lead to an increase in the supply of digital broadcast channels, because there the broadcasters can add additional channels (though at a cost of reduced quality of the transmission of each channel). But the degree to which access rules would actually lead to increased capacity is highly speculative and somewhat attenuated. The clear and immediate effect of the access rules is to supplant existing speakers with other speakers.

VII. ALLOCATION OF UNUSED OR UNDERUTILIZED SPECTRUM AS AN ALTERNATIVE TO REGULATION

The Article thus far has focused on the ways in which government might violate the First Amendment by making decisions that leave spectrum idle. In most cases, the government will not have a sufficient justification for keeping spectrum unused or underused beyond interference, and so government decisions that have this effect will run afoul of the First Amendment unless they are justified by interference. The lack of a sufficient interest in keeping spectrum off the market is the angle that challengers to a governmental refusal to allocate would utilize.

But might the availability of unused spectrum also be relevant to the constitutional analysis of regulations that do not themselves limit access to spectrum? It will certainly be relevant to the policy analysis. Insofar as spectrum is available but not used, an existing licensee can point to that spectrum as an alternative to government regulation of its behavior. The licensee could argue that the government's plan is not necessary, because there are other ways of achieving the same goal. One way of illustrating this point is to return to the regulations discussed immediately above—measures aimed at increasing access to the airwaves. The motivating concern behind such regulations, and the justification for them, is that too little spectrum is available to make our representatives comfortable with leaving licensees unregulated. So the government imposes obligations on licensees that are intended to substitute for, and mimic, a market with a greater supply of licenses. If we can actually create a greater supply of licenses, though, then the government can dispense with the substitute.[300]

This language is fairly similar to the focus in constitutional law on the availability of less restrictive alternatives, and thus suggests a constitutional angle.[301] The idea is that filling unused spectrum will in

300. This is related to the centrality of scarcity as a justification for many kinds of regulation. If scarcity creates sufficient problems of supply that it justifies a variety of regulations that seek to counteract those problems, then policies that mitigate that scarcity will help to mitigate the problems, perhaps more than regulation of existing licensees would. If so, then it would be hard to justify such regulation in light of the alternative of opening up more spectrum.

301. This can also be understood as raising the question whether the regulation is necessary to achieve the state's interest. The Court has sometimes articulated this as an element of heightened scrutiny, *see, e.g.*, Ark. Writers' Project, Inc. v. Ragland, 481 U.S. 221, 231 (1987) ("In order to justify [differential taxation of magazines based on content], the State must show that its regulation is necessary to serve a compelling state interest and is narrowly drawn to achieve that end."), but it may be that the Court is simply using necessity to encompass the principles that

some cases be a less restrictive alternative to existing regulation of spectrum licensees. It is less restrictive as a constitutional matter because no one is displaced or constrained when the government frees up more spectrum, so no one's First Amendment rights are limited. The possibility of allowing more uses on the spectrum might be invoked as an available alternative by licensees who are subject to regulations designed to mitigate problems created by the paucity of voices on the spectrum.

For most regulations, however, the possibility of opening up the spectrum will have little effect on the constitutional analysis. This will be true for the many regulations that would be subject to scrutiny under the more lenient review of *Red Lion*: in applying that scrutiny, courts have generally not looked at the availability of less restrictive alternatives. The existence of a less restrictive alternative is fatal in the context of strict scrutiny, and relevant, but not dispositive, in intermediate scrutiny;[302] but it plays little if any role in the lenient scrutiny that *Red Lion* has been construed as creating.[303]

A reader might wonder whether the analysis in this Article suggests that more rigorous review should be applied to laws designed to enhance the diversity of and access to programming carried on the spectrum. But nothing in the principle against wasting means that diversity and access regulations must be subject to more rigorous scrutiny. Unlike measures that keep spectrum unused, diversity and access regulations are premised on scarcity. As I noted above, these regulations respond to the concern that there is not enough spectrum to give voice to a wide variety of speakers.[304] The regulations are thus akin to the government choosing among potential users of the spectrum.[305] By the same token, diversity and access regulations stand in sharp contrast to government actions that produce idle spectrum, which are undercut by concerns about scarcity and accordingly merit heightened scrutiny. Diversity and access regulations are not inconsistent with scarcity, and so the arguments in this Article would not indicate that they should be subject to heightened scrutiny. As a result, the availability of adding voices to the spectrum as a less restrictive

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regulation must "restrict no more speech than necessary and . . . burden speech no more heavily than necessary." Edwards & Berman, *supra* note 220, at 1533 (suggesting this possibility).

302. *See supra* note 247 and accompanying text.

303. *See supra* notes 183–90, 202 and accompanying text on the different ways that *Red Lion* can be understood.

304. *See supra* note 300 and accompanying text.

305. *See supra* notes 199–201 and accompanying text.

alternative would be largely irrelevant to the constitutional analysis of many, and probably most, spectrum regulations.

Communication via wire (like cable and the Internet) has not been treated as scarce. Thus its regulation has not been subject to lenient scrutiny, but instead has been subject to intermediate or strict scrutiny, depending on whether or not the regulation was content-based.[306] So regulation of these forms of communication might seem to be good candidates for laws whose constitutionality would be affected by the availability of the less restrictive alternative of opening up more spectrum. The problem here is that extra voices on the spectrum would not seem to constitute an alternative to, say, measures designed to add new voices on cable programming. The relevance of the alternative would seem to depend on a court finding that spectrum could substitute for wire.[307] The matter is not entirely free from doubt, as the Supreme Court has treated the category of available alternatives as quite broad.[308] But it would seem that the possibility of opening up more spectrum could not truly be an available alternative if spectrum is not a substitute for wire. Of course, there is reason to conclude that spectrum is a good substitute for wire; but if a court so found, then it would probably also conclude that spectrum is not scarce (precisely because wire is a substitute), and so the scarcity-based lenient scrutiny of *Red Lion* would be inapplicable and the regime of spectrum regulation would be undermined.[309] For purposes of this Article, I am accepting the scarcity rationale (and more generally the current state of spectrum regulation), so a conclusion that de-

306. *See supra* notes 89–91 and accompanying text.

307. On the argument that wire substitutes for spectrum and its significance for purposes of this Article, see *supra* notes 203–04.

308. *See* United States v. Playboy Entm't Group, Inc., 529 U.S. 803, 816–27 (2000) (invalidating a cable indecency ban based in part on its finding that a well-advertised option for parents to block indecent programming is a less restrictive alternative); 44 Liquormart, Inc. v. Rhode Island, 517 U.S. 484, 507–08 (1996) (striking down a ban on liquor price advertising in light of the availability of less restrictive alternatives such as price controls, increased taxation, limits on per capita purchases, or educational campaigns); Denver Area Educ. Telecomm. Consortium, Inc. v. FCC, 518 U.S. 727, 756 (1996) (invalidating restrictions on cable indecency based in part on its finding that "a so-called 'V-chip'—a device that will be able automatically to identify and block sexually explicit or violent programs" would be a less restrictive alternative); Matthew D. Bunker & Emily Erickson, *The Jurisprudence of Precision: Contrast Space and Narrow Tailoring in First Amendment Doctrine*, 6 COMM. L. & POL'Y 259 (2001) (discussing the broad ranges of less restrictive alternatives considered by the Court in applying strict scrutiny); Eugene Volokh, *Freedom of Speech, Shielding Children, and Transcending Balancing*, 1997 SUP. CT. REV. 141, 148–49 (noting the breadth of less restrictive alternatives that the Court considered to be equally effective in *Reno v. ACLU*, 521 U.S. 844 (1997)).

309. *See supra* notes 203–04 and accompanying text.

pends on the abandonment of scarcity is beyond the scope of this discussion.

This is a long way of saying that the government permitting more services on the spectrum as a less restrictive alternative would probably be at best marginally relevant to most spectrum regulation and to all nonspectrum (i.e., wire) regulation. In light of the low level of scrutiny applicable to most forms of spectrum regulation, the constitutionality of most diversity or access regulation applicable to spectrum likely will not turn on the existence of a less restrictive alternative. And although regulations of communication via wire are usually subject to some form of heightened scrutiny, adding voices to the spectrum will not be sufficiently viable alternative regulation of wire to cast doubt on its constitutionality.

I said "most" spectrum regulation in the previous paragraph because some regulations of communications via spectrum are subject to heightened scrutiny, and for some of those the possibility of the government opening up more spectrum quite possibly would constitute a less restrictive alternative. If Congress became sufficiently concerned about the small number of owners of radio or television broadcasters that it, say, decided to prohibit them from editorializing, *FCC v. League of Women Voters*[310] indicates that a court would apply heightened scrutiny and that less restrictive alternatives would be relevant.[311] Adding new voices on the spectrum would seem to respond to this concern about the dearth of owners at least as well as, and more directly than, a ban on editorializing. The availability of excess space on the spectrum would therefore weaken the government's claim that a ban on editorializing was narrowly tailored to its goal of limiting the power of a few dominant voices.

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310. 468 U.S. 364, 381–84 (1984) (invalidating on First Amendment grounds a statute barring public broadcasters who received federal funds from editorializing).

311. In *League of Women Voters*, the Court noted the government's "substantial interest in ensuring that the audiences of noncommercial stations will not be led to think that the broadcaster's editorials reflect the official view of the government," *id.* at 395, but offered the following response:

> [T]his interest can be fully satisfied by less restrictive means that are readily available. To address this important concern, Congress could simply require public broadcasting stations to broadcast a disclaimer every time they editorialize which would state that the editorial represents only the view of the station's management and does not in any way represent the views of the Federal Government or any of the station's other sources of funding.

Id.

The heightened scrutiny need not flow from First Amendment considerations in order for the filling of unused spectrum to constitute an alternative that demonstrates an absence of tailoring. Adding voices to idle spectrum may be a less restrictive alternative in other heightened scrutiny contexts as well. Most notably, as I mentioned above, the government has implemented a number of programs over the years that give preferences in spectrum license assignments to minorities.[312] Such programs are subject to strict scrutiny,[313] and in applying the narrow tailoring prong of such scrutiny the Court has in some cases found that the existence of less restrictive alternatives would doom the racial classification.[314] The relevant government interest in such programs is not to create more minority owners for its own sake (an impermissible goal), but instead to create a wider range of programming (a goal that the Court found to be an important government interest in *Metro Broadcasting, Inc. v. FCC*[315]). That is, increasing the number of broadcasters who are racial minorities is treated as a means to produce more diverse programming. This goal of greater variety in programming would seem to be satisfied at least as well by adding new broadcasters as by giving preferences to racial minorities. Indeed, the main argument in favor of low power radio was that it would produce a wider variety of programming, with a huge range of groups adding their voices on the spectrum.[316] The mere

312. *See supra* notes 285–89 and accompanying text.

313. *See* Adarand Constructors, Inc. v. Pena, 515 U.S. 200, 227 (1995) (establishing strict scrutiny as the standard for reviewing federal racial classifications).

314. *See, e.g.*, Wygant v. Jackson Bd. of Educ., 476 U.S. 267, 280 n.6 (1986) (plurality opinion) ("[T]he term ['narrowly tailored'] may be used to require consideration of whether lawful alternatives and less restrictive means could have been used. Or . . . the classification at issue must 'fit' with greater precision than any alternative means."); San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 51, 55–58 (1973) (noting that a racial classification would be invalid if less restrictive alternatives existed).

315. 497 U.S. 547, 566 (1990). In light of the government's professed interest in increasing the diversity of owners of broadcast licenses, it was particularly striking that the government decided to give a digital television license to each existing broadcaster (and to no one else). *See* 47 U.S.C. § 309(j)(2) (Supp. V 1999) ("The competitive bidding authority granted [here] shall not apply to licenses . . . issued by the Commission . . . for initial licenses . . . for digital television service given to existing terrestrial broadcast licensees to replace their analog television service licenses . . . ."); Advanced Television Systems and Their Impact on the Existing Television Broadcasting Service, 6 F.C.C.R. 7024, ¶ 6 (1991) ("[T]he public interest would best be served by limiting the pool of initial ATV applicants to existing broadcasters."). The government managed to double the number of stations that were broadcasting television signals without increasing the diversity of broadcast ownership one iota.

316. *See* Creation of a Low Power Radio Service, 14 F.C.C.R. 2471, ¶¶ 1, 12 (1999) (discussing potential diversifying effects from the authorization of new low power radio stations);

addition of many new broadcasters, and the fact that the construction and operating costs would be lower for low power radio than for full power ones, would likely have this result. In addition, the FCC took actions to enhance this possibility—notably, limiting low power licenses to noncommercial entities that do not already own a broadcast station, newspaper, or cable company and that have headquarters within their broadcasting community.[317] The expected result was (and, with the smaller number now permitted, to a lesser extent still is) a profusion of new owners and new programming.[318] The significance of this is that increasing the total number of broadcasters by opening up unused spectrum would be less restrictive not only for First Amendment but also for Equal Protection purposes, as it need not involve any racial classification. And, as this discussion suggests, increasing the supply of broadcasters is likely to be at least as effective in achieving the government's permissible goals, and probably more so.[319] Avoiding wasting of the spectrum would thus seem to be a less

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Stephen Labaton, *F.C.C. to Approve Low Power Radio for Wider Access*, N.Y. TIMES, Jan. 20, 2000, at A1 (same); David Leonhardt, *Religious Groups at Odds with G.O.P. on Radio Licenses*, N.Y. TIMES, July 11, 2000, at A1 ("[T]he F.C.C. chairman[] has said that adding hundreds of low power radio stations is one of his top priorities—a key way to counteract the increasing consolidation of the industry into the hands of a relatively few big profit-minded broadcasters.").

317. Creation of Low Power Radio Service, 15 F.C.C.R. 2205, ¶¶ 1, 29–30, 33, 140 (2000). The prohibition on cross-ownership extends to any entity that "hold[s] an attributable interest in any other broadcast station or other media subject to [the FCC's] ownership rules," *id.* ¶ 1, which means that a broadcaster, newspaper, or cable company cannot even be a joint owner of a low power radio licensee.

318. *Id*. ¶¶ 4, 15, 163; Section 257 Report to Congress: Identifying and Eliminating Market Entry Barriers for Entrepreneurs and Other Small Businesses, 15 F.C.C.R. 15,376, ¶¶ 98, 100 (2000).

In fact, if increasing the number of minority owners were considered to be a compelling government interest, the FCC expected that its low power radio program would achieve that goal, as well. The FCC noted that, in light of the ownership restrictions and lower costs mentioned above, the low power radio program would likely result in more ownership by racial minorities (and women) as well as more diverse programming. *See* Creation of Low Power Radio Service, 65 Fed. Reg. 7616-01, ¶ 174 (Feb. 15, 2000):

> Because of the predicted lower construction and operational costs of LPFM stations as opposed to full power facilities, we expect that small entities would be expected to have few economic obstacles to becoming LPFM licensees. Therefore, this new service may serve as a vehicle for small entities and under-represented groups (including women and minorities) to gain valuable broadcast experience and to add their voices to their local communities.

Creation of Low Power Radio Service, 15 F.C.C.R. 19,208, ¶¶ 76, 78–81 (2000) (discussing LPFM ownership restrictions and their diversity-enhancing functions).

319. Adding to the supply of licenses would not have exactly the same effects as diversity regulation would—after all, they are different measures, with different impacts—but the question is whether the alternative of increasing supply would be a less restrictive alternative that would also achieve the government's compelling purpose. *See* Volokh, *supra* note 308, at 149

restrictive alternative to measures that grant preferences in license assignments based on race.

CONCLUSION

There are two particularly salient features of the regulatory regime governing spectrum. First, the federal government has claimed control of the spectrum, such that anyone who wants to use it must obtain a license from the government. Congress decided to assert that it and only it could control the entire spectrum, and by statute it effectuated this plan.[320] The government has therefore chosen to interpose itself in the use of spectrum. It has created a chokepoint, with its approval necessary for anyone to use this resource. There was nothing ineluctable about this choice; the government could have chosen to allow private ownership of some or all of the spectrum, but it decided otherwise. The government thus created, and placed itself in the position of controlling, a requirement for a certain form of communication.

Second, the prevailing rationale supporting government regulation of the spectrum is that the spectrum is not only subject to interference but also is scarce in a way that distinguishes it from other forms of communication. These two points are related. The regulatory regime that scarcity is understood to justify—and that the Supreme Court has held it to justify—encompasses not only the government choosing among applicants for a given license, but also its underlying control of the spectrum. Scarcity, however, does not justify government actions that limit access to the spectrum; scarcity undercuts such actions. The rationale for government action, and for lenient review of that action, is absent when the government keeps spectrum unused or underused.

The significance of these features is that government actions limiting access to spectrum are subject to heightened First Amendment scrutiny, and in most cases the only interest that would justify a refusal to allocate is nontrivial interference. This may sound strange to some, but it reflects the basic principle that governmental creation of

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(arguing that in *Reno v. ACLU*, 521 U.S. 844 (1997), the Court identified a number of less restrictive alternatives that resulted in the invalidation of the statute under strict scrutiny even though they were less effective than the challenged statute in achieving the government's purpose).

320. *See supra* note 1.

a limit on communication raises the specter of exactly the sort of abridgement of speech that the First Amendment should prevent.